

## RESOURCE ALLOCATION REVIEW



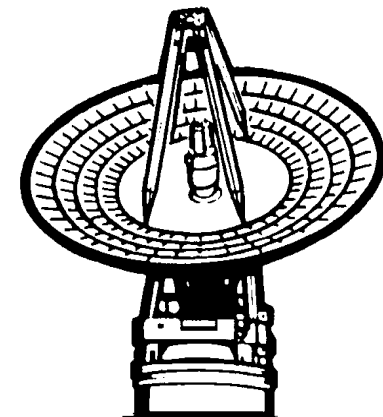
# Interplanetary Network Customer Forum

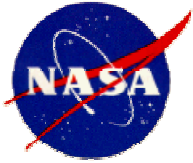
**Version 1.0 Preliminary**

**2007 - 2009**

**RAPS Team**

**February 13, 2007**





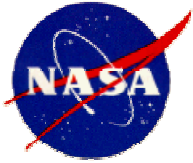
## **RESOURCE ALLOCATION REVIEW**



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### **Agenda**

- ◆ **Loading Study**
- ◆ **Periods of Contention**
- ◆ **Events, Recommendations, and Analyses**



## **RESOURCE ALLOCATION REVIEW**



### **Loading Study**

- ◆ **Assumptions**
- ◆ **Project Changes and Changes in DSN Resource Support Request**
- ◆ **New Projects**
- ◆ **Deleted Projects**
- ◆ **DSN User / Mission Planning Set**
  - Ongoing / Approved Projects
  - Advanced / Planning Projects
- ◆ **Major DSN Downtimes by Date**
- ◆ **IND Resource Implementation Planning Matrix**

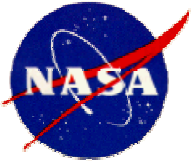


## RESOURCE ALLOCATION REVIEW



### Assumptions

- ◆ DSS-16 is scheduled for an indeterminate downtime beginning February 1, 2006. The previous designation of 26M meaning DSS-16,46,66 will now equate to DSS-46,66. All nominal support previously assigned to DSS-16 has been reassigned to DSS-27 or DSS-24. DSS-16 will provide committed support for launches and special activities after February 1, 2006. As of September 29, 2008 DSS-46 and DSS-66 are scheduled to be taken down for an indeterminate length of time.
- ◆ The following Project/User requirements were not considered during the analysis process and will be negotiated during the Mid-Range Scheduling Process:
  - ATOT – Development (4 - 8 hour supports); Mission (8 hour supports)
  - DSN - (Antenna and ZDD Calibrations)
  - GBRA - Guest Observations (4 – 8 hour supports); PRA-GAVT (all supports); Host Country 4 – 8 hour supports
  - GSSR - (GODR supports at DSS-14/15)
  - MER 1 & 2 - Uplink and Downlink MSPA passes
  - RFC - Clock Sync and CAT M&E S/X and X/Ka-band VLBI
  - Space Geodesy Programme

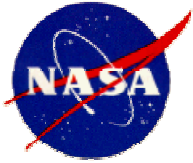


## **RESOURCE ALLOCATION REVIEW**



### **Assumptions Continued**

- ◆ **Mars Global Surveyor – Last contact on November 2, 2006. A review board is investigating the cause. MGS has ceased requesting tracking support in the Mid-range schedule builds beginning in week 05 of 2007. For this analysis, the MGS mission support was not included.**



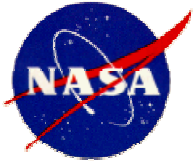
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## **Loading Study**

### **Project Changes Since August 2006**



- ◆ **Ground Based Radio Astronomy (GBRA)**
  - 2007: In week 12, change from 1 pass to 4 for GBRA Host Country and added 1 pass (24 hours) in week 04 and 12 at DSS-43 for GBRA Host Country.
- ◆ **Goldstone Solar System Radar (GSSR)**
  - 2007: Venus Radar passes with Greenbank Radio Telescope in weeks 22 – 24
- ◆ **Hayabusa (MUSES – C)**
  - 2007: Added 1 Delta DOR E/W pass at DSS-25\65 duration of 2 hours and 1 Delta DOR N/S pass at DSS-25\45 duration of 2 hours in weeks 19 - 23.
  - 2010: Added Re-entry at DSS-25,34,54 duration of 3 hours each pass in weeks 8 (1 pass), 9 - 13 (2 passes). Added Re-entry at DSS-25,34,65 duration of 4 hours per pass in weeks 14 - 18 (2 passes), week 23 (7 passes). Added Re-entry TRIMM at DSS-25,34,54 duration of 4 hours per pass in week 22 (3 passes). Added Re-entry TRIMM at DSS-25,34,65 duration of 4 hours per pass in week 19 - 21 (3 passes).
- ◆ **Integral**
  - 2007: Reduced from 4 passes per week to 3 in weeks 02, 06, 11, 17, 21 and 25.
- ◆ **Mars Science Laboratory**
  - 2009: Changed Inst C/O 1 – moved the passes from weeks 43 - 44 to weeks 44 - 45.
  - 2010: Changed FSW Update in week 16; removed 3 passes and added to week 15, changing it from 4 to 7 passes. Changed INST C/O 2 in week 19 – removed 3 passes and added it to week 18, changing it from 7 to 10 passes.



# **RESOURCE ALLOCATION REVIEW**

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### **Project Changes Since August 2006**

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#### **◆ Rosetta**

- 2007: Added 3 (4.3 hour) passes in week 06 for Delta DOR at DSS-14\43. Removed 3 (4.3 hour) passes in week 06 for Delta DOR at DSS-14\45. Added 3 passes in week 08 for Mars Swing-by at DSS-54. Added 2 passes in week 08 for Mars Swing-by at DSS-24,25. Added 1 pass in week 08 for Mars Swing-by at DSS-45.

#### **◆ SELENE**

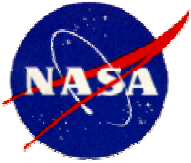
- Moved from Advanced/Planning to Ongoing Mission set

#### **◆ Space Interferometry Mission**

- Launch date changed from 03/13/11 to 10/01/14
- End of Prime Mission changed from 09/13/16 to 04/01/19
- End of Extended Mission changed from 09/13/21 to 04/01/24

#### **◆ SOHO**

- 2008: Changed Keyhole Maneuver – moved 1 pass from week 21 to week 22
- 2009: Changed SOHO TSO stations from DSS-27,46,66 to DSS-27,45,65 (DSS-46 and DSS-66 down in 2009). Added TSO events in weeks 03, 13, 39, and 50.



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## **Loading Study**

### **Project Changes Since August 2006**

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#### **◆ Voyager 2**

- 2007: Replace 7.4 hour passes at DSS-43 from DTR P/B to XB High Pwr 4 hours passes at 34M on DOY 066 and DOY 248. Add 4 hour XB Low Pwr pass at 34M on DOY 262.
- 2008: Replace 7.4 hour passes at DSS-43 from DTR P/B to XB High Pwr 4 hours passes at 34M on DOY 065 and DOY 247. Add 4 hour XB Low Pwr pass at 34M on DOY 080 and DOY 261.
- 2009: Replace 7.4 hour passes at DSS-43 from DTR P/B to XB High Pwr 4 hours passes at 34M on DOY 070 and DOY 252. Add 4 hour XB Low Pwr pass at 34M on DOY 085 and DOY 266.





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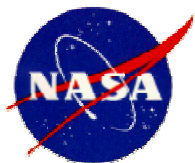
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### **Project Changes Since August 2006**



#### **◆ Wilkinson Microwave Anisotropy Probe**

- 2007: Weeks 5 and 21, changed passes from 4 (.7 hr) on 70M and 1 (5hr) at DSS-14,43 and 2 (3hr) at DSS-14,43 to 7 (.7hr) passes on 70M. In weeks 10 and 28, change from 7 (.7hr) on 70M to 5 (.7 hr) on 70M and 1 (5hr) at DSS-14,43 and 1 (3hr) at DSS-14,43.
- 2008: On week 4, change from 4 (.7hr) at DSS-14,43 and 2 (3hr) at DSS-14,43 to 5 (.7hr) at DSS-14,43 and 1 (3hr) at DSS-14,43. In weeks 20 and 36, change from 4 (.7 hr) at DSS-14,43 and 1 (5hr) at DSS-14,43 and 2 (3hr) at DSS-14,43 to 7 (.7hr) passes at DSS-14,43. In weeks 23 and 41, change from 7 (.7hr) at DSS-14,43 to 5 (.7 hr) at DSS-14,43 and 1 (5hr) at DSS-14,43 and 1 (3hr) at DSS-14,43. In week 52, delete 1 (5hr) and 2 (3hr) passes from DSS-14.
- 2009: In weeks 5, 20, and 36 change from 7 (1 hr) at DSS-14,43 to 5 (1 hr) at DSS-14,43 and 1 (5hr) at DSS-14,43 and 1 (3hr) at DSS-14,43. In weeks 16 and 32, change from 4 (1 hr) at DSS-14,43 and 1 (5hr) at DSS-14,43 and 2 (3hr) at DSS-14,43 to 7 (1 hr) passes at DSS-14,43.

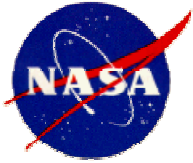


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### New Projects Since August 2006

Project	Acronym	Launch or Start	EOPM	EOEM
None				



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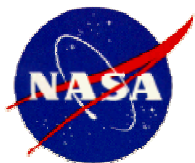
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**Removed/Unsupported Projects Since August 2006**

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Project	Acronym	Launch or Start	EOPM	EOEM
None				



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### DSN User / Mission Planning Set

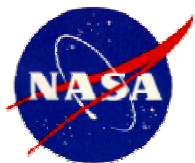
#### – Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
DSN Antenna Calibration	DSN	--	--	--
DSS Maintenance	DSS	--	--	--
DSN ZDD Calibration	DSN	11/01/04	--	--
European and Global VLBI Systems	EGS	--	--	--
Ground Based Radio Astronomy	GBRA	--	--	--
Reference Frame Calibration (Cat M&E and Clock Sync)	DSN	--	--	--
Space Geodesy	SGP	--	--	--
Voyager 2	VGR2	08/20/77	10/15/89	12/31/10
Voyager 1	VGR1	09/05/77	12/31/80	12/31/10
Goldstone Solar System Radar	GSSR	04/01/85	--	--
Ulysses	ULYS	10/06/90	09/11/95	03/30/08
Geotail	GTL	07/24/92	07/24/95	10/01/08
Wind	WIND	11/01/94	11/01/97	10/01/11
SOHO	SOHO	12/02/95	05/02/98	10/01/11
Polar	POLR	02/22/96	08/23/97	03/31/07
Mars Global Surveyor	MGS	11/07/96	02/01/01	11/03/09
Advanced Composition Explorer	ACE	08/25/97	02/01/01	10/01/13

02/13/2007

Preliminary

SC – 1.0 – 11



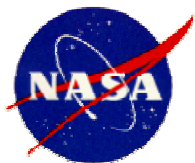
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### DSN User / Mission Planning Set

#### – Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Cassini	CAS	10/15/97	06/30/08	06/30/10
Chandra X-Ray Observatory	CHDR	07/23/99	07/24/09	07/24/14
Cluster 2 - S/C #2 (Samba)	CLU2	07/16/00	02/15/03	09/30/10
Cluster 2 - S/C #3 (Rumba)	CLU3	07/16/00	02/15/03	09/30/10
Cluster 2 - S/C #1 (Salsa)	CLU1	08/09/00	02/15/03	09/30/10
Cluster 2 - S/C #4 (Tango)	CLU4	08/09/00	02/15/03	09/30/10
Mars Odyssey 2001	M01O	04/07/01	08/24/04	12/31/10
Wilkinson Microwave Anisotropy Probe	WMAP	06/30/01	10/01/03	09/30/10
Advanced Tracking and Observational Techniques (ATOT)	ATOT	02/01/02	12/31/08	- - -
International Gamma Ray Astrophysics Lab	INTG	10/17/02	12/18/04	12/16/10
Hayabusa (MUSES - C)	MUSC	05/09/03	06/09/10	- - -
Mars Express Orbiter	MEX	06/02/03	02/11/06	12/31/08
Spirit (Mars Exploration Rover - A)	MER2	06/10/03	04/06/04	09/30/08
Opportunity (Mars Exploration Rover - B)	MER1	07/07/03	04/27/04	09/30/08
Spitzer Space Telescope (SIRTF)	STF	08/25/03	05/31/09	05/31/14
Rosetta	ROSE	02/26/04	12/31/15	- - -



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### DSN User / Mission Planning Set

#### – Ongoing / Approved Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Messenger	MSGR	08/03/04	03/19/12	- - -
Mars Reconnaissance Orbiter	MRO	08/12/05	12/31/10	12/31/15
Venus Express	VEX	11/09/05	09/24/07	01/22/09
New Horizons	NHPC	01/17/05	04/17/16	TBD
Stereo Ahead	STA	09/18/06	09/26/08	09/26/11
Stereo Behind	STB	09/18/06	09/26/08	09/26/11
Dawn	DAWN	06/20/07	07/04/15	TBD
SELENE	SELE	07/16/07	08/26/07	TBD
Phoenix	PHX	08/03/07	10/26/08	TBD
Lunar Reconnaissance Orbiter (LRO)	LRO	10/31/08	09/31/10	TBD
Lunar Crater Observation and Sensing Satellite (LCROSS)	TBD	10/31/08	01/31/09	TBD
Kepler	KEPL	11/01/08	12/01/12	- - -
Mars Science Laboratory 2009	MSL	10/25/09	03/04/12	TBD



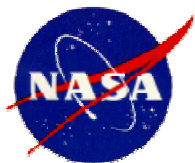
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### DSN User / Mission Planning Set

#### – Advanced / Planning Projects –

Project	Acronym	Launch or Start	EOPM	EOEM
Chandrayaan – 1	TBD	03/01/08	03/01/10	TBD
Juno	JUNO	07/08/10	09/18/16	TBD
Mars Scout 2011	M11L	01/31/12	09/10/14	TBD
James Webb Space Telescope	JWST	06/01/13	07/31/16	TBD
Mars Orbiter 2013	M13O	11/28/13	08/21/16	TBD
Space Interferometry Mission	SIM	10/01/14	04/01/19	04/01/24



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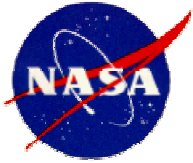
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### DSN Major Downtimes by Date

– 2007 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 43	Grouting	02/04/2007	02/16/2007	12	05 - 07	035	046
DSS 55	X/Ka LNA Maintenance	02/18/2007	02/21/2007	3	07 - 08	049	051
DSS 65	Antenna Drive Cabinet Refurbishment	02/26/2007	04/16/2007	50	09 - 16	057	1106
DSS 43	Painting	03/26/2007	04/02/2007	7	13 - 13	085	091
DSS 46	Painting	04/03/2007	04/07/2008	4	14 - 14	093	096
DSS 14	Grouting	04/27/2007	05/09/2007	12	17 - 19	117	128
DSS 14	HALON Replacement - NIB	04/27/2007	05/09/2007	12	17 - 19	117	128
DSS 46	Hydraulics Task	05/14/2007	05/19/2007	5	20 - 20	134	138
DSS 66	Hydraulics Task	05/28/2007	06/01/2007	5	22 - 22	148	152
DSS 63	Hydrostatic Bearing Replacement	06/12/2007	09/16/2007	97	24 - 37	163	259
DSS 63	Depot Level Maintenance - NIB	06/12/2007	09/16/2007	97	24 - 37	163	259
DSS 63	Load Sensors Install - NIB	06/12/2007	09/16/2007	97	24 - 37	163	259
DSS 45	Antenna Drive Cabinet Refurbishment	08/27/2007	10/01/2007	36	35 - 40	239	274
DSS 45	S-Band 200W U/L Install - NIB	08/27/2007	10/01/2007	36	35 - 40	239	274





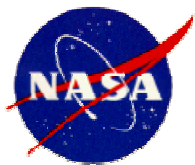
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### DSN Major Downtimes by Date

– 2007 –

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DSS 45	Depot Level Maintenance - NIB	08/27/2007	10/01/2007	36	35 - 40	239	274
DSS 45	Antenna Controller Replacement – <b>Proposed</b>	10/01/2007	11/19/2007	49	40 – 46	274	322
DSS 14	Antenna Controller Replacement S/W Install – <b>Proposed</b>	10/08/2007	10/21/2007	14	41 – 42	281	294
DSS 14	Grouting – NIB	10/08/2007	10/14/2007	7	41 – 41	281	287
DSS 65	200W S-Band U/L – <b>Proposed</b>	10/29/2007	12/10/2007	42	44 – 49	302	343
DSS 65	Depot Level Maintenance – NIB	10/29/2007	12/10/2007	42	44 – 49	302	343

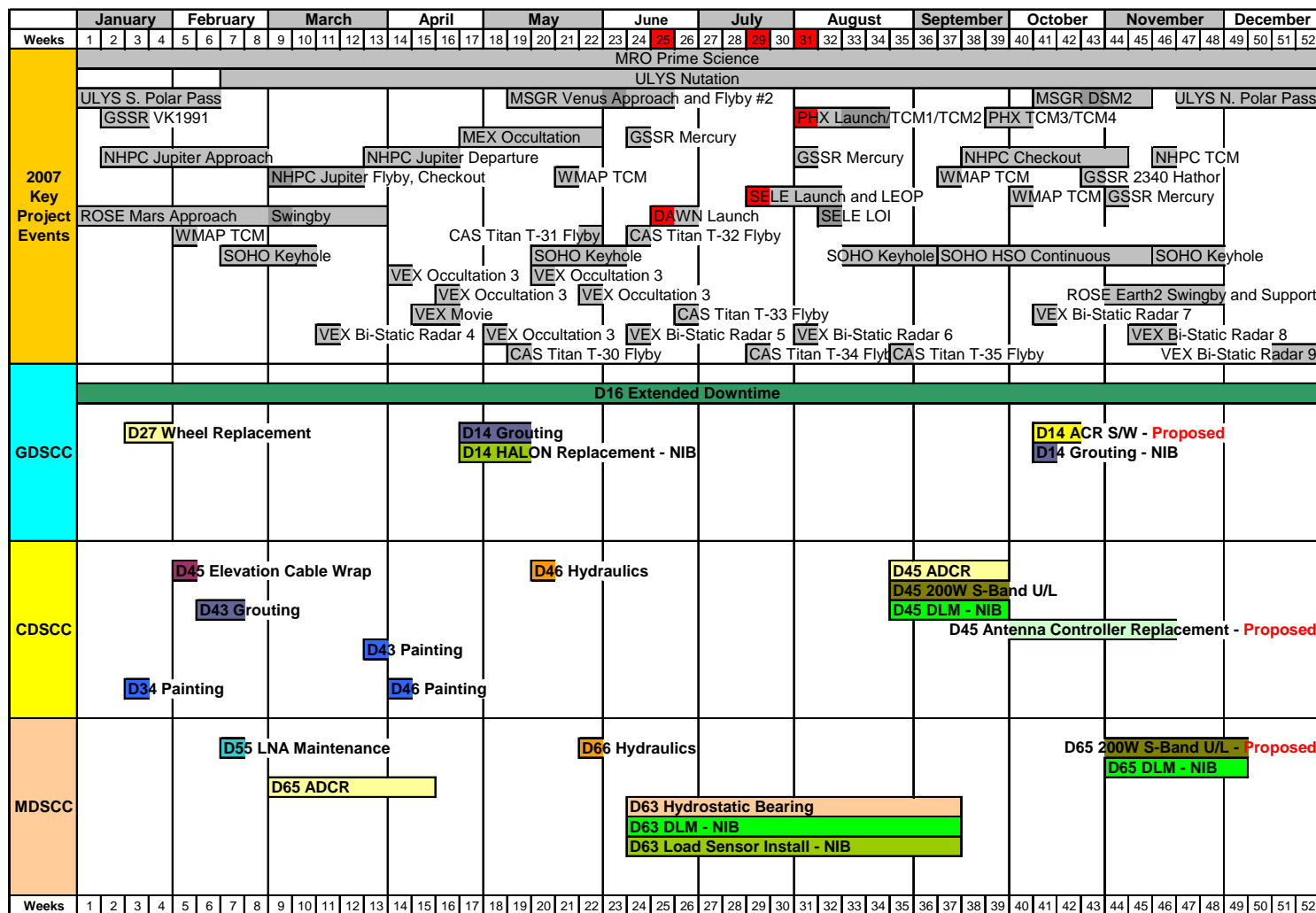


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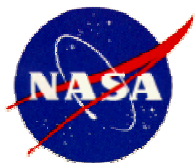
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### DSN Major Downtimes by Date

– 2007 –



Revised: January 21, 2007



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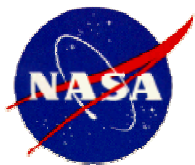
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### DSN Major Downtimes by Date



– 2008 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 54	X/X-Ka Band Installation	02/04/2008	05/11/2008	98	06 - 19	035	132
DSS 54	AZ Track Refurbishment - NIB	02/04/2008	05/11/2008	98	06 - 19	035	132
DSS 54	AZ Data Gear Replacement - NIB	02/04/2008	05/11/2008	98	06 - 19	035	132
DSS 54	Q-Band Installation - NIB	02/04/2008	05/11/2008	98	06 - 19	035	132
DSS 54	Depot Level Maintenance - NIB	02/04/2008	05/11/2008	98	06 - 19	035	132
DSS 15	Life Extension	02/18/2008	05/11/2008	84	08 - 19	049	132
DSS 15	Depot Level Maintenance – NIB	02/18/2008	05/11/2008	84	08 - 19	049	132
DSS 34	Ka-Band Phase 2 Install – <b>Proposed</b>	07/14/2008	09/29/2008	77	29 – 39	196	272
DSS 34	Depot Level Maintenance – NIB	07/14/2008	09/29/2008	77	29 – 39	196	272
DSS 46	Extended Downtime - <b>Proposed</b>	09/29/2008	TBD	TBD	TBD	TBD	TBD
DSS 66	Extended Downtime - <b>Proposed</b>	09/29/2008	TBD	TBD	TBD	TBD	TBD
DSS 43	DLM – NIB	09/29/2008	10/26/2008	27	40 - 43	273	300
DSS 43	Life Extension	09/29/2008	03/29/2009	182	40 - 13	273	088
DSS 43	Depot Level Maintenance - NIB	09/29/2008	03/29/2009	182	40 - 13	273	088

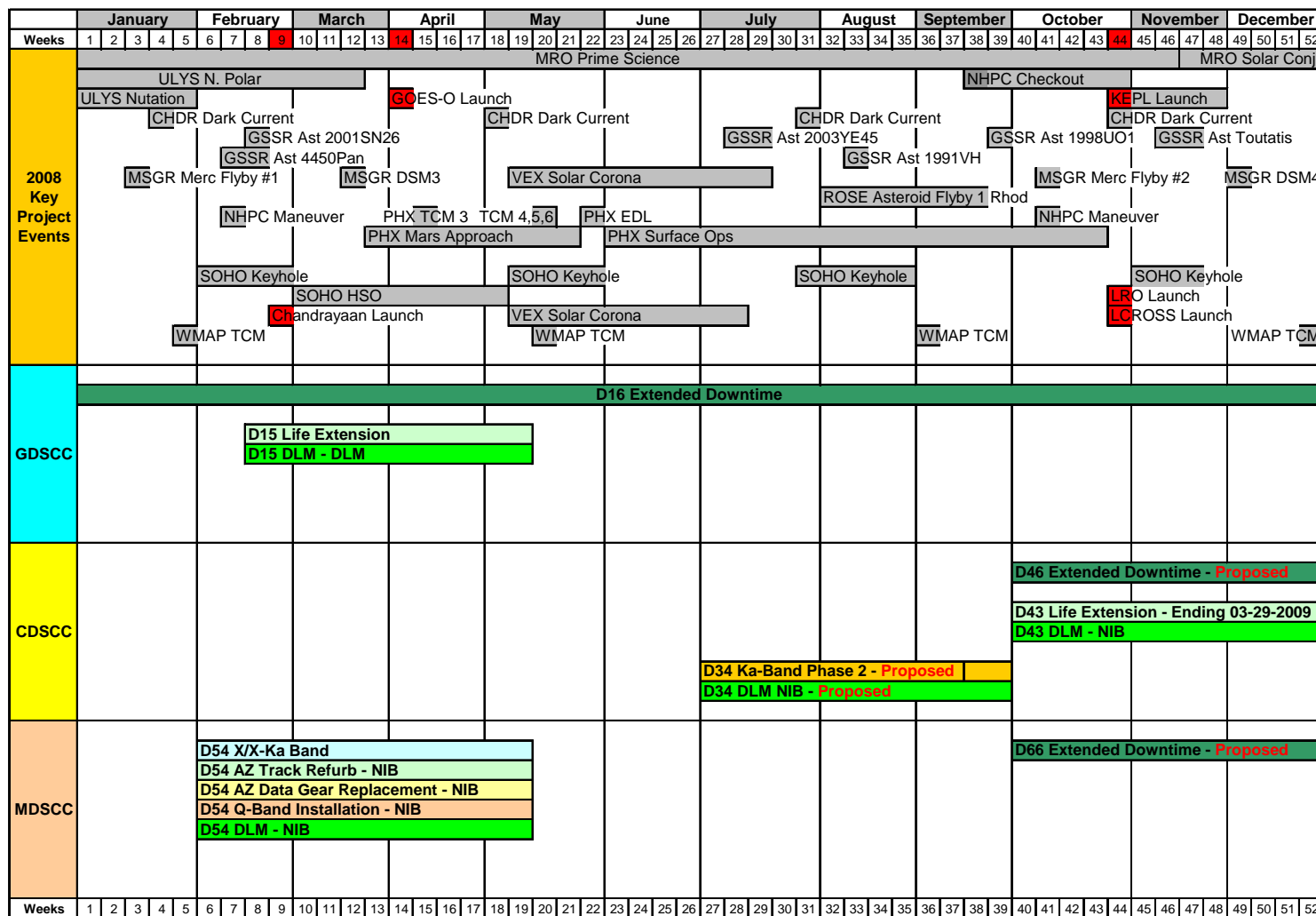


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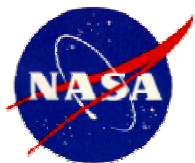
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### DSN Major Downtimes by Date

– 2008 –



Revised: December 5, 2006



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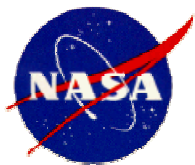
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### DSN Major Downtimes by Date



– 2009 –

Site	Description	Start	End	Duration (days)	Week(s)	Start DOY	End DOY
DSS 63	Life Extension	03/30/2009	09/27/2009	182	14 - 39	089	270
DSS 46	Extended Downtime - <b>Proposed</b>	09/29/2008	TBD	TBD	TBD	273	TBD
DSS 66	Extended Downtime - <b>Proposed</b>	09/29/2008	TBD	TBD	TBD	273	TBD
DSS 24	Ka-Band Phase 2 Install – <b>Proposed</b>	07/06/2009	09/21/2009	77	28 – 38	187	263
DSS 24	Depot Level Maintenance – NIB - <b>Proposed</b>	07/06/2009	09/21/2009	77	28 – 38	187	263
DSS 14	Life Extension	09/28/2009	03/28/2010	182	40 - 12	271	087

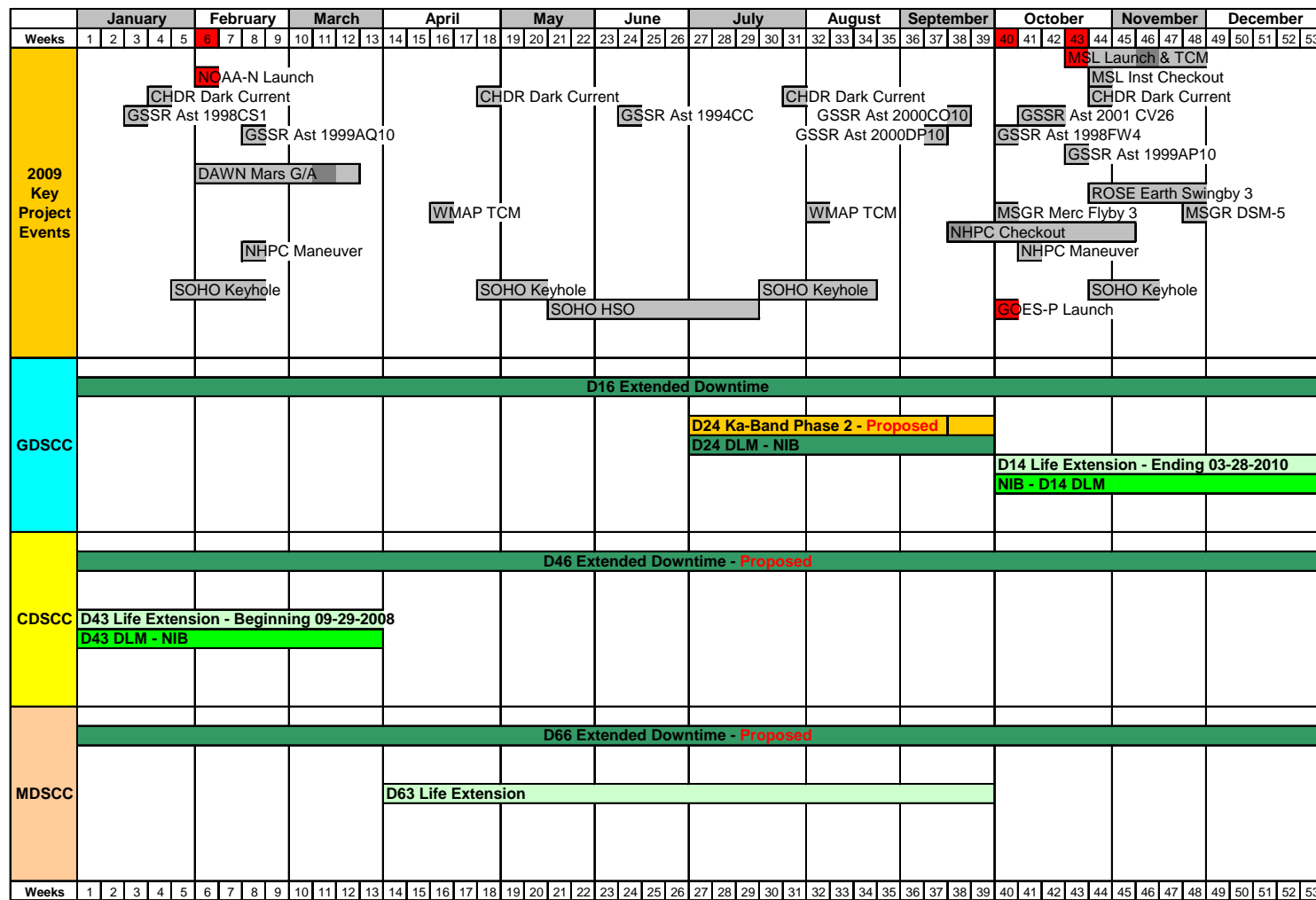


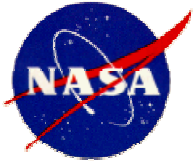
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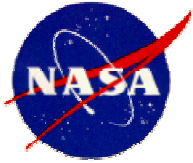
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## Loading Study



## IND Resource Implementation Planning Matrix

Complex	Station	Subnet	S-Band		X-Band		Ka-Band		Ka Phase 2
			Down	Up	Down	Up	Down	Up	
10	DSS-16	26M	✓	✓	N/A	N/A	N/A	N/A	N/A
40	DSS-46	26M	✓	✓	N/A	N/A	N/A	N/A	N/A
60	DSS-66	26M	✓	✓	N/A	N/A	N/A	N/A	N/A
10	DSS-27	34HSB	✓	✓	N/A	N/A	N/A	N/A	N/A
10	DSS-24	34B1	✓	✓	✓	✓	N/A	N/A	09/21/09
40	DSS-34	34B1	✓	✓	✓	✓	✓ ✓ ✓	N/A	09/29/08
60	DSS-54	34B1	✓	✓	✓	✓	04/15/08	N/A	09/27/10
10	DSS-25	34B2	N/A	N/A	✓	✓	✓	N/A	N/A
10	DSS-26	34B2	N/A	N/A	✓	✓	✓	N/A	N/A
60	DSS-55	34B2	N/A	N/A	✓	✓	✓ ✓ ✓	N/A	N/A
10	DSS-15	34HEF	✓	N/A	✓	✓	N/A	N/A	N/A
40	DSS-45	34HEF	✓	11/11/07	✓	✓	N/A	N/A	N/A
60	DSS-65	34HEF	✓	12/19/07	✓	✓	N/A	N/A	N/A
10	DSS-14	70M	✓	✓	✓	✓	N/A	N/A	N/A
40	DSS-43	70M	✓	✓	✓	✓	N/A	N/A	N/A
60	DSS-63	70M	✓	✓	✓	✓	N/A	N/A	N/A
N/A = Capability Not Planned      xx/xx/xx = Capability Date Recently Changed      As of: 01/22/07 ✓ ✓ ✓ = Capability Recently Exists      ✓ = Capability Exists									



# RESOURCE ALLOCATION REVIEW

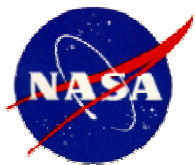
## Periods of Contention



<i>Legend</i>	
<b>05 – 08</b>	Indicates months that DO contain contentions to be resolved
<b>18 – 22</b>	Indicates months that DO NOT contain contentions to be resolved
<b>01 – 04</b>	Indicates months without contention

Month	Weeks		
	2007	2008	2009
January		01 – 05	01 – 05
February		06 – 09	06 – 09
March		10 – 13	10 – 13
April		14 – 17	14 – 18
May		18 – 22	19 – 22
June		23 – 26	23 – 26
July	27 – 30	27 – 31	27 – 31
August	31 – 35	32 – 35	32 – 35
September	36 – 39	36 – 39	36 – 39
October	40 – 43	40 – 44	40 – 44
November	44 – 48	45 – 48	45 – 48
December	49 – 52	49 – 52	49 – 53

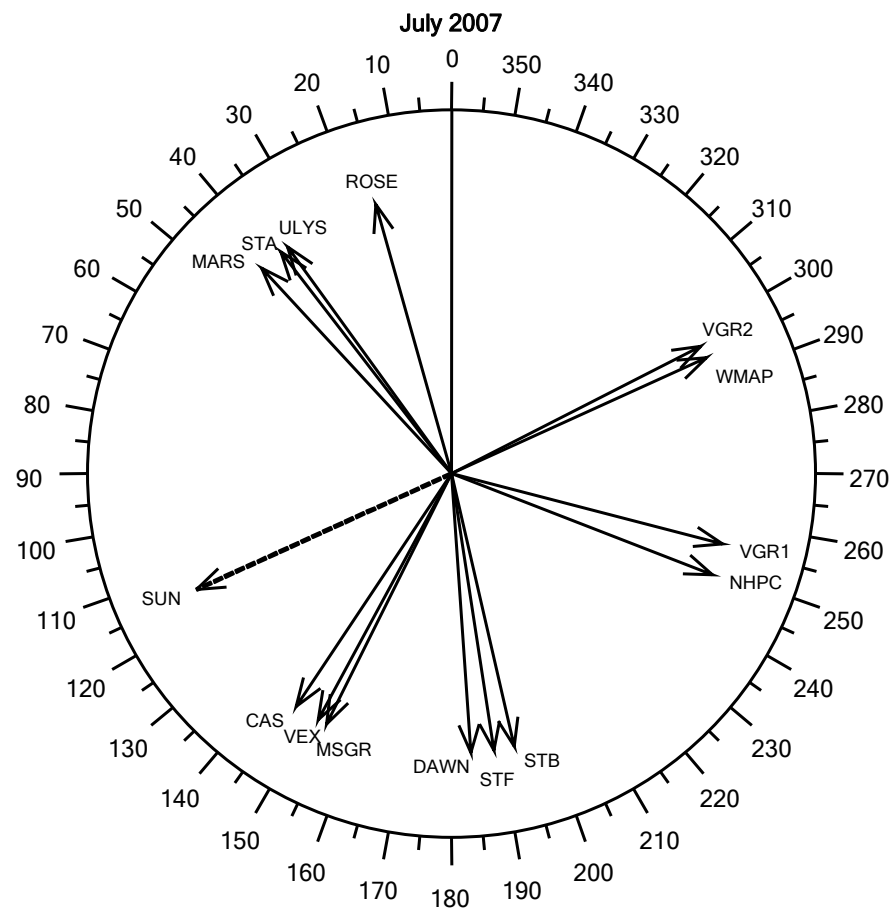




# RESOURCE ALLOCATION REVIEW

## Spacecraft Right Ascension

### July 15, 2007



THE SPACECRAFT RIGHT ASCENSION FIGURES SHOW THE POSITIONS OF THE SPACECRAFT IN THE SKY RELATIVE TO EACH OTHER ON THE 15TH OF EACH MONTH FOR THE YEAR INDICATED. RIGHT ASCENSION IS COMMONLY MEASURED IN HOURS, WITH 1 HOUR = 15 DEGREES.

THE ARROW INDICATES THE CENTER OF A SPACECRAFT VIEW FROM EARTH. EXTEND 60 DEGREES ON BOTH SIDES OF THE ARROW TO CALCULATE AN EIGHT (8) HOUR VIEW PERIOD.



# **RESOURCE ALLOCATION REVIEW**

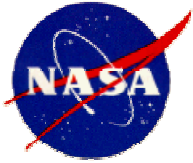
## **Events, Recommendations and Analyses**



- ◆ **The Resource Allocation Review Redbook makes reference to monthly contention as low, moderate, severe, and extreme. The explanation of these terms is listed below.**
  - **Projected unsupportable time is expressed as low, moderate, severe, or extreme in the Analysis sections of this document. Projected unsupportable time is an estimate of the amount of requested time, typically in percentage of requirements or modified requirements, that is unsupportable, based on resource availability, other users' requirements, assumed priorities, and view periods. The following percentages apply:**

<b>Low/Workable</b>	<b>= &lt;20%</b>
<b>Moderate</b>	<b>= 20% to 30%</b>
<b>Severe</b>	<b>= 31% to 45%</b>
<b>Extreme</b>	<b>= &gt;45%</b>

**Workable is a term used to express a condition wherein the projected unsupportable time is low. This condition occurs when the general forecasting analysis indicates a low percentage of unsupportable time or when agreements have been made to reduce contention to a workable level. Workable essentially means that experience has shown that the remaining contention may be solved during final schedule preparations and negotiations.**

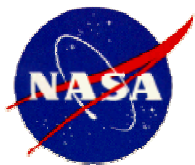


# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



# **2007 Events, Recommendations and Analyses**

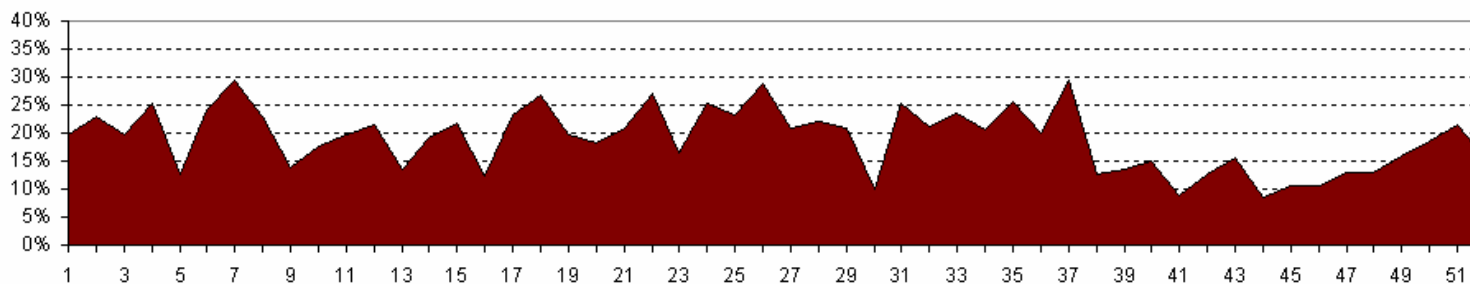


# RESOURCE ALLOCATION REVIEW

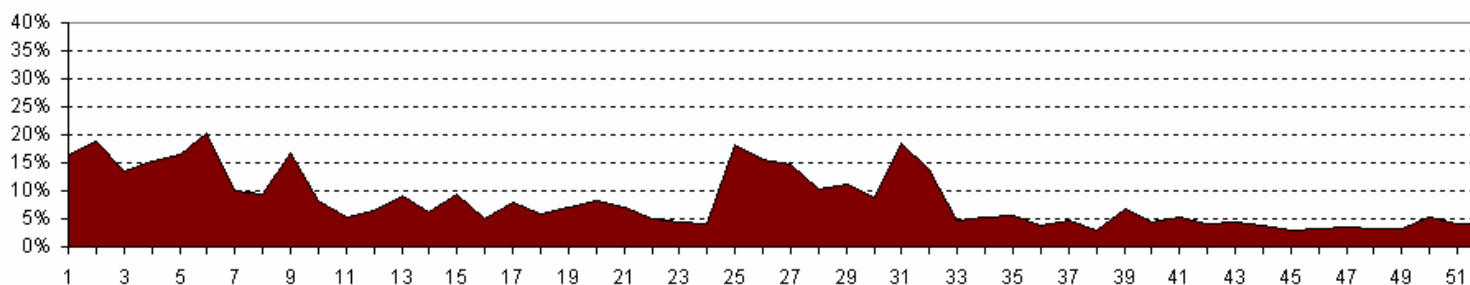
## Events, Recommendations and Analyses

### 2007 Weekly Average User Unsupportable Time

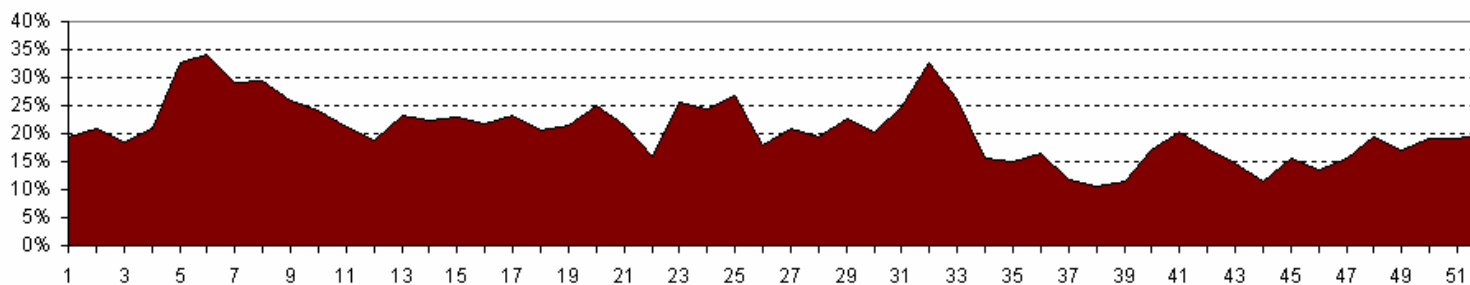
70M

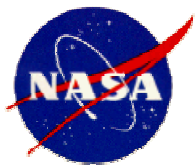


34HEF



34BWG1



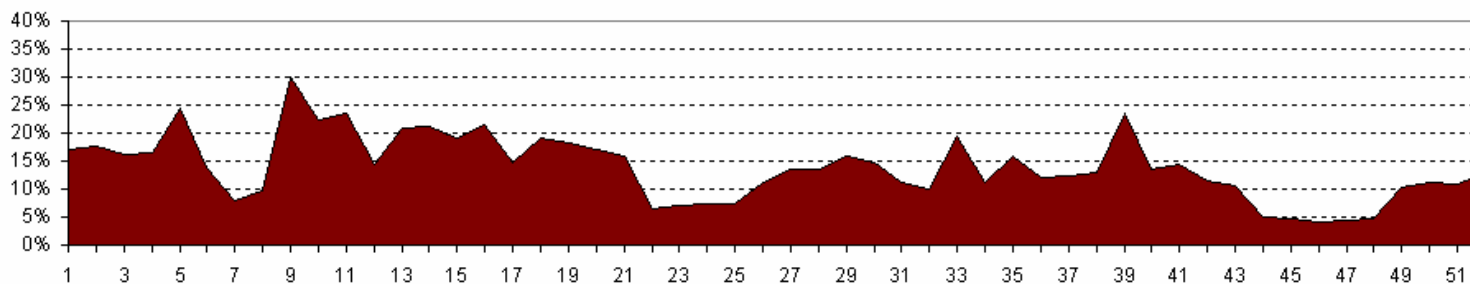


# RESOURCE ALLOCATION REVIEW

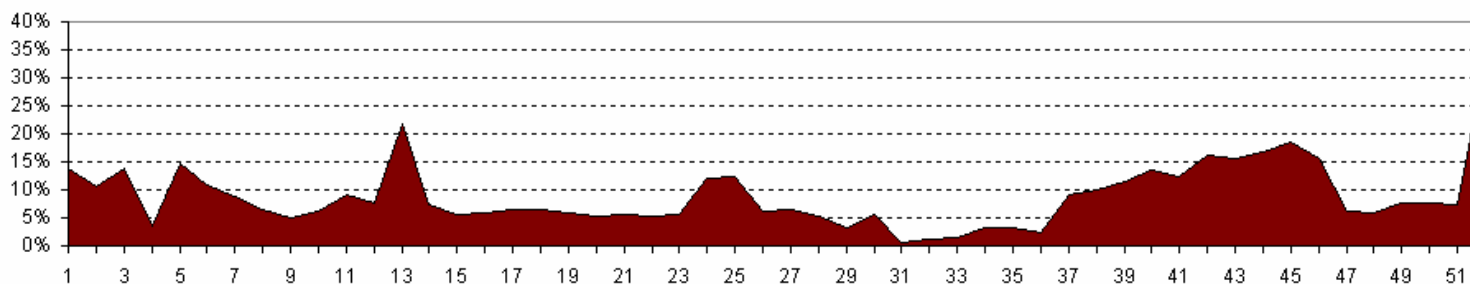
## Events, Recommendations and Analyses

### 2007 Weekly Average User Unsupportable Time

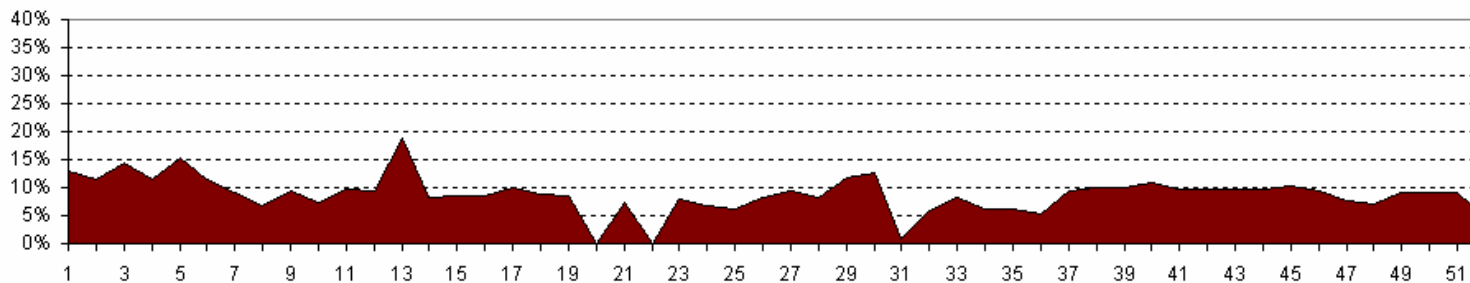
34BWG2

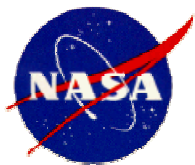


34HSB



26M

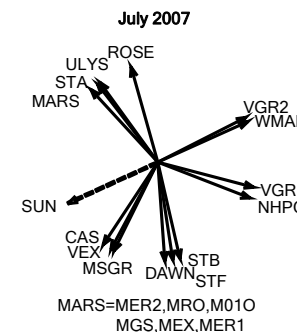




# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2007 – July (Weeks 27 - 30)



#### EVENTS

DSS-63 approved downtime (Hydrostatic Bearing Replacement)

ATOT A01 Astrometry in week 37

Cassini Tour

Chandra Earth Eclipse and ACA D/C MESR in week 27

Dawn LEOP support in weeks 27 - 28

GBRA Host Country in weeks 26,27,30

GSSR Mercury RSD with Greenbank Telescope (GBT) in week 30

Mars Odyssey Delta DOR in week 28

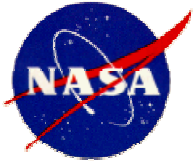
Mars Reconnaissance Orbiter X/Ka-Delta DOR in week 29

SELENE Launch, Initial Acquisition on DOY 197 and LEOP, TCM support in weeks 29 - 30

SOHO TSO in week 29

Ulysses Nutation

WMAP Maneuver in week 28



## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – July (Weeks 27 - 30) (continued)**

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#### **RECOMMENDATIONS**

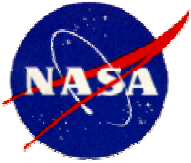
**M01O Mapping MSPA with MGS Mapping, change all support to standalone. MSPA passes from DSS-43 and 34H with MRO Prime Science at DSS-14,43; 3 passes in weeks 27 and 28, and 2 passes in week 29 and 1 pass in week 30. MSPA 1 of 2 passes in week 29 and 2 of 2 passes in week 30 from 34H with MRO Prime Science at DSS-14,43. (1)**

**MRO Prime Science MSPA 3 DSS-43 and 34H passes per week with M01O Mapping at DSS-14,43. (1)**

**SELE utilize DSN 26 Meter antennas to fulfill requirements on DSN 34B1 Maintenance days and when hard conflicts exist with ULYS in week 29 when the Moon viewperiod overlaps with the Maintenance/Sun viewperiod. (1,2)**

**SOHO move support from DSS-24,34 to DSS-27,46,66 in week 29. (2)**

**ULYS utilize non-DSN assets to fulfill Nutation requirements during DSS-63 downtime, DSS-54 maintenance days, launch activities, during periods of high contention and limited viewperiod length. (1,2)**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – July (Weeks 27 - 30) (continued)**

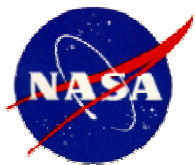
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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, M01O Mapping, MEX Bi-Static Radar, ULYS Nutation and VGR2 routine support. Contention is due to ULYS Nutation and significant view period overlap with Mars view, and is further compounded by proposed DSS-63 downtime.
2. (34B1) The projected unsupportable time is moderate for CHDR, DSS Maintenance, SOHO, ULYS Nutation and WIND. Contention is primarily due to SELENE Launch support requirements in week 29.

Contention levels on the 34H, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.





# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2007 – August (Weeks 31 - 35)

#### EVENTS

DSS-63 approved downtime (Hydrostatic Bearing)

DSS-45 approved downtime (ADCR)

ATOT A01 Astrometry in week 35

GSSR Mercury RSD GBT in week 31

Mars Odyssey Delta DOR in week 33

Mars Reconnaissance Orbiter X/Ka-Delta DOR in week 33

Phoenix Launch in DOY 215, TCM in week 33, Delta DOR in weeks 34 - 35

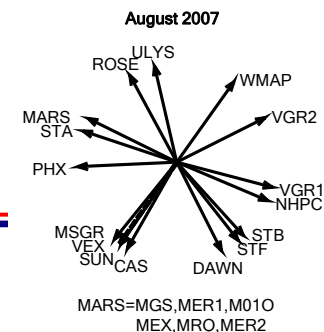
SELENE TCM in weeks 31 - 34, LEOP in weeks 31 - 32, LOI in weeks 32 - 34

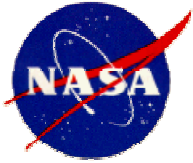
SOHO Keyhole in weeks 33 - 35

Ulysses Nutation

Venus Express Bi-Static Radar 6 in week 31

Voyager 1 MAGROL on DOY 216





## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – August (Weeks 31 - 35) (continued)**

---

#### **RECOMMENDATIONS**

**CAS Tour move 5 supports at DSS-24,25,26,34,54,55 to DSS-15,25,55 in week 32. (2)**

**INTG move 3 passes at DSS-24,27 to DSS-27 in week 31 – 33. (2)**

**M01O Mapping MSPA with MGS Mapping, change all support at DSS-14 and DSS-43 to standalone. MSPA 3 passes at DSS-14 and DSS-43 per week with MRO Prime Science at DSS-14,43. (1)**

**MRO Prime Science, MSPA 3 passes at DSS-14,43 per week with MRO Prime Science at DSS-14,43. (1)**

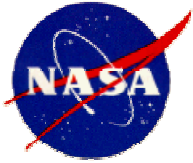
**PHX move 11 passes at 34B1 to 34B1,34B2 in week 32. (2)**

**SELE utilize DSN 26 Meter antennas to fulfill requirements on DSN 34B1 Maintenance days and when hard conflicts exist with ULYS in week 33 when the Moon viewperiod overlaps with the Maintenance/Sun viewperiod. (1,2)**

**STA move support from DSS-26,34,54 to 34H in weeks 31 – 33. (2)**

**STB move support from DSS-26,34,54 to 34H in weeks 31 – 33. (2)**

**SOHO Keyhole move 3 of 7 passes at 34B1 to 15/27,45/46,65/66 in week 33. (2)**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – August (Weeks 31 - 35) (continued)**

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#### **RECOMMENDATIONS**

ULYS utilize non-DSN assets to fulfill Nutation requirements during DSS-63 downtime, DSS-54 maintenance days, launch activities, during periods of high contention and limited viewperiod length. (1,2)

WIND move 2 of 7 passes to D/L only at DSS-45 in weeks 32 and 33. (2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – August (Weeks 31 - 35) (continued)**

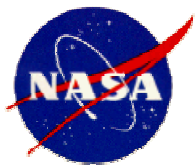
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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, GSSR Mercury and Mercury RSD, M01O Mapping and Delta DOR, MEX Bi-Static Radar, MRO Prime Science and ULYS Nutation. Contention is due to ULYS Nutation, SOHO Keyhole and significant view period overlap Mars view, and is compounded by the DSS-63 downtime.
2. (34B1) The projected unsupportable time is moderate to severe for CAS, CHDR, DSS Maintenance, MRO, PHX, SELE, SOHO Keyhole, STA, STB, ULYS, VGR2 and WIND. Contention is primarily due to PHX Launch support, SELE LEOP and ULYS Nutation requirements.

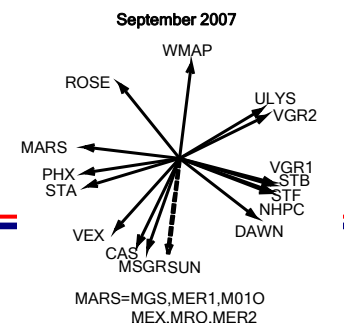
Contention levels on the 34H, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2007 – September (Weeks 36 - 39)**



#### **EVENTS**

**DSS-63 approved downtime (Hydrostatic Bearing Replacement)  
ending in week 37**

**DSS-45 approved downtime in weeks 35 - 39 for: ADCR, 200W S-Band U/L, DLM**

**ATOT A01 Astrometry in week 37**

**GSSR Mercury in week 39**

**Mars Odyssey Delta DOR in week 37**

**Mars Reconnaissance Orbiter X/Ka Delta DOR in week 37**

**New Horizons Checkout in week 38 - 39, Delta DOR in week 39**

**Phoenix ACS/NAV in week 37, Delta DOR**

**SOHO HSO in weeks 37 – 39**

**Ulysses Nutation**

**Voyager 1 MAGROL Overlay Window in week 39**

**Voyager 2 MAGROL on DOY 257**

**WMAP Maneuver in week 37**



## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – September (Weeks 36 - 39) (continued)**

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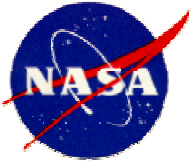
#### **RECOMMENDATIONS**

**M01O Mapping MSPA with MGS Mapping, change support at DSS-14 and DSS-43 to standalone in week 37. MSPA 7 passes at DSS-14 and DSS-43 with MRO Prime Science at DSS-14,43. (1)**

**MRO Prime Science, MSPA 7 passes at DSS-14,43 with M01O Mapping at DSS-14,43 in week 37. (1)**

**ULYS utilize non-DSN assets to fulfill Nutation requirements during DSS-63 downtime, DSS-54 maintenance days, during periods of high contention and limited viewperiod length. (1)**

**VGR2 reduce support from 8 to 6 hours at DSS-43,45,34. (1)**



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

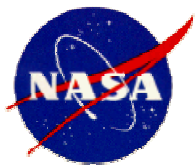
### **2007 – September (Weeks 36 - 39) (continued)**

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#### **ANALYSES**

1. (70M) Moderate to severe unsupportable time is projected for DSS Maintenance GSSR Mercury, M01O Mapping, MEX Bi-Static Radar, PHX, ULYS Nutation and VGR2. Contention is due to oversubscription in the daylight and Mars view period and is further compounded by the DSS-63 downtime.

Contention levels on the 34H, 34B1, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2007 – October (Weeks 40 - 43)**

#### **EVENTS**

**DSS-45 proposed downtime (Antenna Controller Replacement) beginning in week 40**

**DSS-14 proposed downtime (ACR S/W Install) in weeks 41 - 42**

**Chandra Lunar Eclipse in week 40**

**EGS EVN J-M5 in week 43**

**GSSR Asteroid 2340 Hathor in week 43, GODR in weeks 41 - 42, Mercury in week 41**

**Mars Odyssey Delta DOR in week 42**

**Mars Reconnaissance Orbiter X/Ka-Delta DOR in week 41**

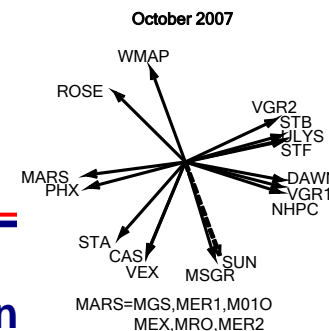
**Messenger Delta DOR in weeks 41 - 43, DSM-2 in week 42**

**New Horizons Checkout in weeks 40 - 43, Delta DOR in week 40, L MET CCD CMD in week 43**

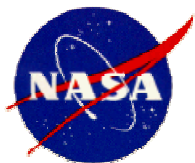
**Phoenix Delta DOR, TCM in week 40**

**SOHO HSO**

**Ulysses Nutation**







# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

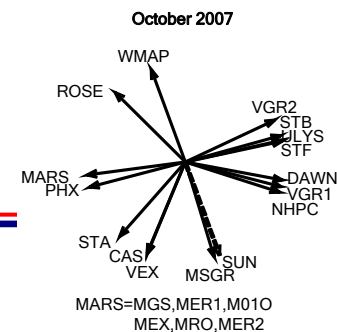
### 2007 – October (Weeks 40 - 43) Continued

#### EVENTS

Venus Express Bi-Static Radar 7 in weeks 40 - 41

Voyager 1 DTR Array in week 43

WMAP Maneuver in 40 - 41





## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – October (Weeks 40 - 43) (continued)**

---

#### **RECOMMENDATIONS**

DSS approve proposed DSS-14 downtime for Antenna Controller Software installation in weeks 41 and 42 and DSS-45 downtime for Antenna Controller Replacement. DSS Maintenance delete 1 DSS-24 maintenance in each week 41 and 42 and DSS-63 delete 1 Thursday maintenance in week 41. (2)

CAS Tour move 2 passes from DSS-14 to 34B1,34B2 in weeks 41 and 42. Move support from 34H to DSS-15,34,65. (DT)

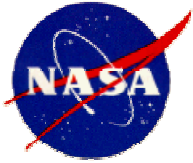
CLU2 1/2/3/4 SSO move 1 pass per week from DSS-27/24/15/14 to DSS-27/24/15 in weeks 41 and 42. Move support from DSS-46/34/45/43 to DSS-46/34/43. CLU4 1/2/3/4 MSO move support from DSS-46/34/45/43 to DSS-46/34/43 in week 40. (DT)

DAWN move 1 pass per week from 34H to 34B1. (DT)

GBRA PRA-GAVRT delete 1 support per week in weeks 41 and 42. (DT)

GSSR GODR move 1 DSS-14 support each from weeks 41 and 42 to weeks 39 and 43. GSSR Mercury move 1 DSS-14 support in week 41 to week 43. (DT)

M01O Mapping MSPA with MGS Mapping at 70M, change 6 passes to standalone in week 40. M01O Mapping MSPA seven 10-hour passes at 70M with MRO Prime Science in weeks 40 - 42 at 70M. M01O Delta DOR move support at DSS-14\43 and DSS-14\63 from week 42 to week 43. (1,2)



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – October (Weeks 40 - 43) (continued)**

---

#### **RECOMMENDATIONS**

**MEX Orbital Science MSPA with MRO Prime Science at 70M, change 7 MSPA passes to standalone in week 40. (1)**

**MRO Prime Science MSPA with MEX Orbital Science at 70M, change 7 MSPA passes to standalone at 34H,34B2 in week 40, MRO Prime Science, MSPA seven 34H passes in week 40 and 7 of 14 passes at 34B1,34B2 from weeks 41 and 42 with M01O Mapping for 10 hour 70M passes in weeks 40 - 42. Move remaining 7 passes at 34B1,34B2 to 34H,34B2 in weeks 41 and 42. (1,2)**

**MSGR Cruise move 7 passes from DSS-25,45,65 and DSS-26,45,55 to DSS-15,34,65 in week 40 and 4 passes from DSS-26,45,55 to DSS-15,34,65. Move 4 Delta DOR supports from DSS-15\65,15\45 to DSS-15\65,15\34 in weeks 41 – 43. (2)**

**PHX TCM move 18 passes from DSS-25,34,55 to 34B1,34B2 in week 40. (2)**

**ULYS utilize non-DSN assets to fulfill Nutation requirements during DSS-14 downtime, DSS-24 maintenance days, during periods of high contention and limited viewperiod length. (1,2)**

**VGR1 Routine U/L move support from DSS-14 to DSS-43 in weeks 41 and 42. (DT)**



## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – October (Weeks 40 - 43) (continued)**

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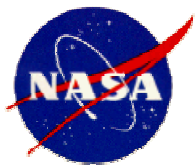


#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, M01O Mapping, MEX Bi-Static Radar, MSGR DSM-2, MRO Prime Science, ULYS Nutation, VGR2 and WMAP. Contention is due to ULYS Nutation, significant view period overlap with Mars view, and is compounded by the DSS-14 and DSS-45 downtime.
2. (34B1) The projected unsupportable time is moderate to severe for DSS Maintenance, GBRA Host Country, MSGR Cruise, NHPC, PHX, ULYS Nutation and VGR2. Contention is primarily due to PHX TCM support, ULYS Nutation requirements and compounded by DSS-14 and DSS-45 downtimes.

**DT - Denotes recommendations made for downtime approval.**

**Contention levels on the 34H, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2007 – November (Weeks 44 - 48)

#### EVENTS

DSS-45 proposed downtime (Antenna Controller Replacement)  
ending in week 46

DSS-65 proposed downtime (200W S-Band U/L) beginning in week 44

Chandra ACA D/C MESR in week 45, Lunar Eclipse in week 44

GSSR GODR in week 44, 46, 48, Mercury in week 45

Mars Odyssey Delta DOR in week 46

Mars Reconnaissance Orbiter X/Ka Delta DOR in week 45

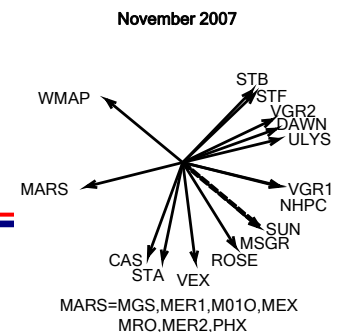
Phoenix Delta DOR

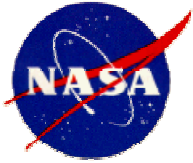
Rosetta Earth Swing-by (DOY 318)

SOHO HSO in weeks 44 - 46, Keyhole in weeks 46 - 48

Ulysses Nutation

Voyager 1 MAGROL DOY 306 - 307





## **RESOURCE ALLOCATION REVIEW BOARD**

### **Events, Recommendations and Analyses**

**2007 – November (Weeks 44 - 48) (continued)**

---

#### **RECOMMENDATIONS**

DSS approve proposed DSS-45 downtime for Antenna Controller Replacement ending in week 46 and DSS-65 downtime for 200W S-Band Uplink installation begins in week 44.

CAS Tour move support from 34H to DSS-15,34,54 in weeks 44 – 46 and to DSS-15,45,54 in weeks 47 and 48. (DT)

CLU2 1/2/3/4 SSO move from DSS-46/34/45/43 to DSS-46/34/43 in weeks 44 – 46. Move 1 pass per week from DSS-66/54/65/63 to DSS-66/54/63 in weeks 45 and 47. CLU4 1/2/3/4 MSO move 1 support from DSS-46/34/45/43 to DSS-46/34/43 in week 45. (DT)

DAWN Cruise move 1 pass per week from 34H to 34B1. (DT)

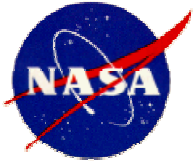
DSN ANTICAL S/X delete DSS-45 support in week 45. (DT)

MSGR Cruise move 5 passes from 34H to DSS-15,34,55 in week 44 and 3 passes from 34H to DSS-15,45,55 in weeks 47 – 48 and 4 passes from DSS-26,45,65 to DSS-26,45,55 in week 48. (DT)

PHX Delta DOR move support from DSS-24\34,24\65 to DSS-24\34,24\54. (DT)

SOHO Keyhole move 2 passes from DSS-15/27,45/46,65/66 to 14/27,43/46,63/66 in week 46 and 3 passes in week 47. (DT)

ULYS utilize non-DSN assets to fulfill Nutation requirements during periods of high contention and limited viewperiod length.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – November (Weeks 44 - 48) (continued)**

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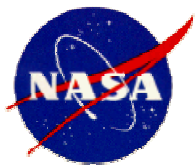


#### **ANALYSES**

1. (34H) The projected unsupportable time is Low/Workable with the implementation of the DSS-45 and DSS-65 downtime.

**DT - Denotes recommendations made for downtime approval.**

**Contention levels on the 70M, 34B1, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2007 – December (Weeks 49 - 52)**

#### **EVENTS**

**DSS-65 proposed downtime (200W S-Band U/L) ending in week 49**

**ATOT A01 Image in week 51**

**Chandra Earth Eclipse in weeks 51 - 52**

**Dawn Delta DOR in weeks 49 and 51**

**GSSR Astrometry 3200 Phase in week 50, GODR in week 52, and Mars**

**Mars Odyssey Delta DOR in week 50, and THEMIS**

**Mars Reconnaissance Orbiter X/Ka-Delta DOR in week 49**

**Messenger Delta DOR in weeks 50 - 52, TCM in week 51**

**New Horizons Maneuver in weeks 51 - 52, Solar Conjunction in weeks 49,51**

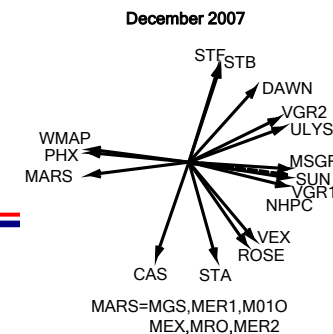
**Phoenix Delta DOR**

**SOHO TSO in week 52**

**Ulysses Nutation**

**Venus Express Bi-Static Radar 9 in week 51**

**Voyager 2 MAGROL on DOY 348**







# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – December (Weeks 49 - 52) (continued)**

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#### **RECOMMENDATIONS**

DSS approve proposed DSS-65 downtime for 200W S-Band Uplink installation ending in week 49.

CAS Tour move support from 34H to DSS-15,34,54 in week 49. (DT)

CLU2 1/2/3/4 SSO move 1 pass from DSS-66/54/65/63 to DSS-66/54/63 in week 49. (DT)

DSN ANTCAL S/X delete DSS-65 support in week 49. (DT)

MSGR Cruise move 3 passes from 34H to DSS-15,45,55 in week 49 and 4 passes from DSS-26,45,65 to DSS-26,45,55 in week 49. (DT)

PHX Delta DOR move support from DSS-24\34,24\65 to DSS-24\34,24\54 in week 49. (DT)

ULYS utilize non-DSN assets to fulfill Nutation requirements during periods of high contention and limited viewperiod length.



# **RESOURCE ALLOCATION REVIEW BOARD**

## **Events, Recommendations and Analyses**

### **2007 – December (Weeks 49 - 52) (continued)**

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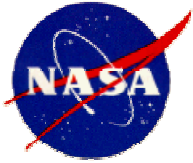


#### **ANALYSES**

1. (34H) The projected unsupportable time is Low/Workable with the implementation of the DSS-65 downtime.

**DT - Denotes recommendations made for downtime approval.**

**Contention levels on the 70M, 34B1, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.**

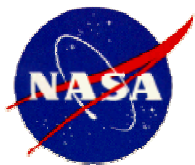


# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



# **2008 Events, Recommendations and Analyses**

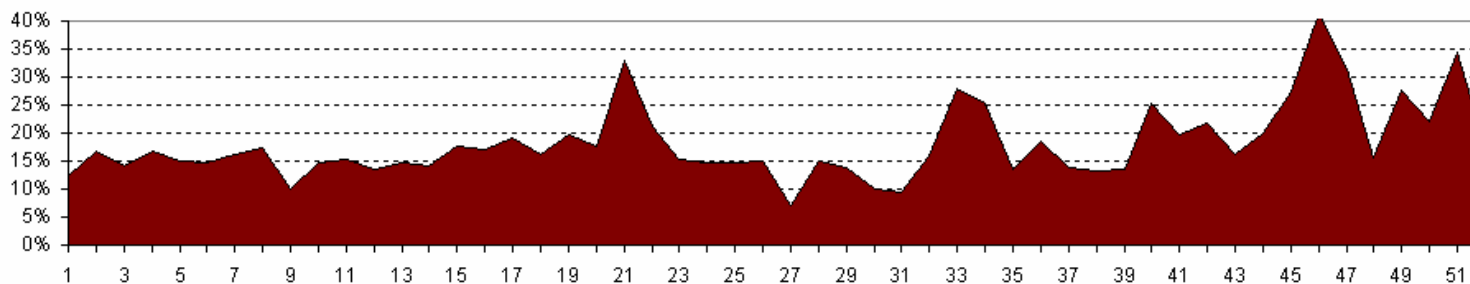


# RESOURCE ALLOCATION REVIEW

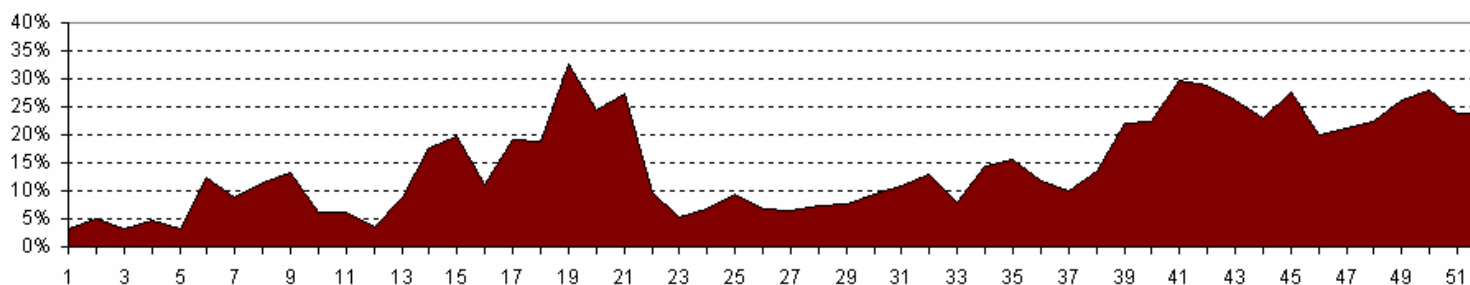
## Events, Recommendations and Analyses

### 2008 Weekly Average User Unsupportable Time

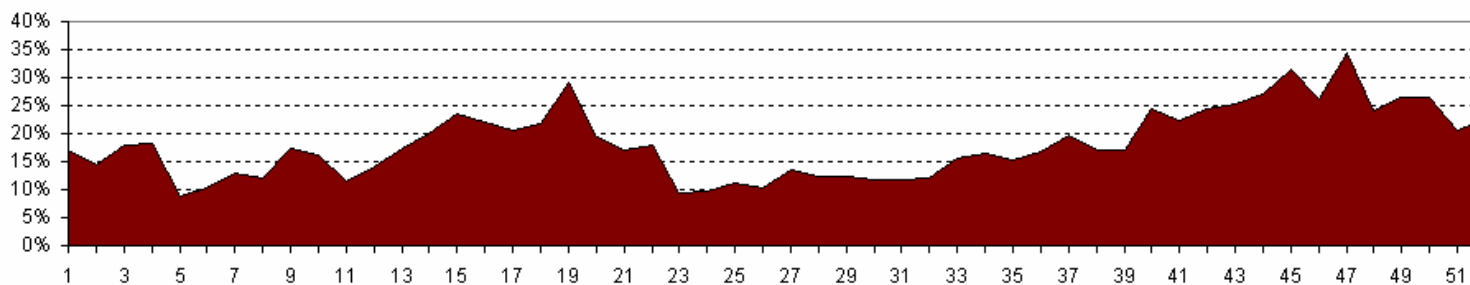
70M

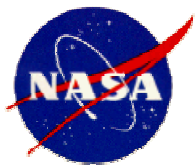


34HEF



34BWG1



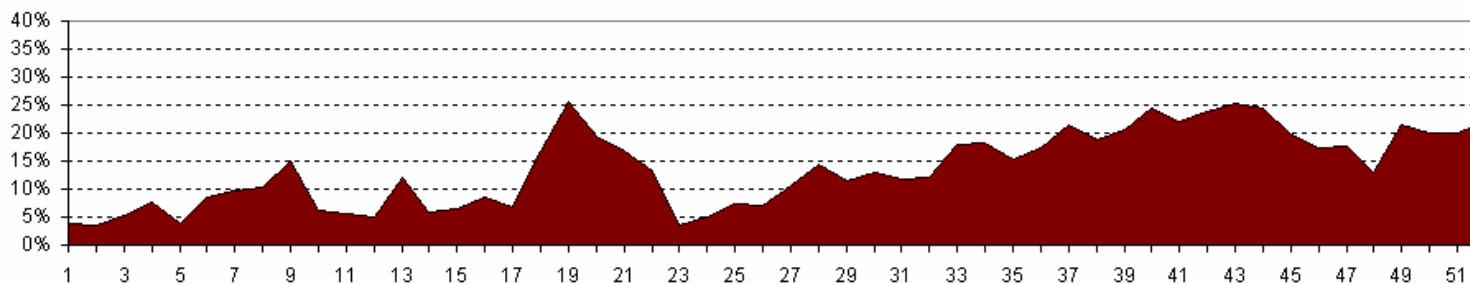


# RESOURCE ALLOCATION REVIEW

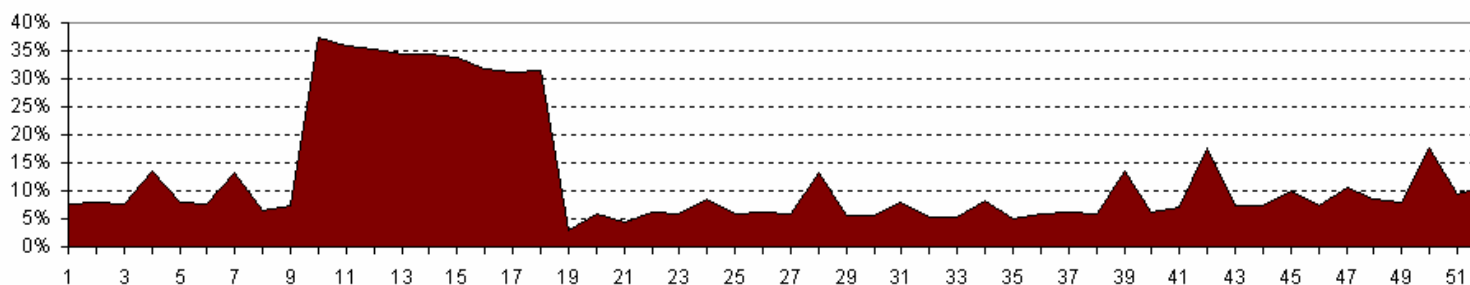
## Events, Recommendations and Analyses

### 2008 Weekly Average User Unsupportable Time

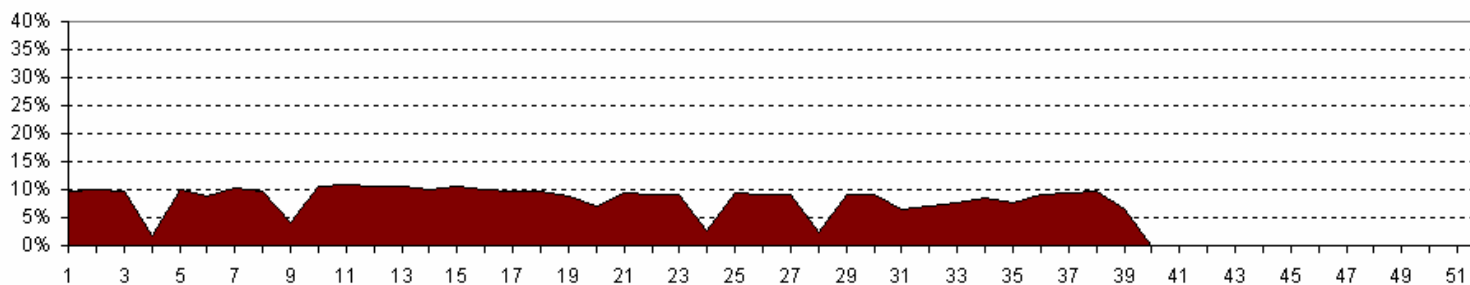
34BWG2

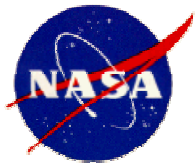


34HSB



26M

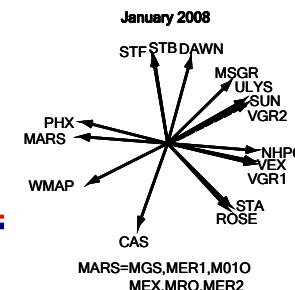




# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – January (Weeks 01 - 05)**



#### **EVENTS**

**Cassini Tour**

**Chandra Earth Eclipse end in week 01, Lunar Eclipse in week 04**

**GSSR Mars in week 04**

**GBRA Host Country in week 05**

**Mars Express Orbital Science beginning in week 01, Radio Science and Bi-Static Radar in weeks 02 and 04**

**Mars Reconnaissance Orbiter Ka Ops Demo and Prime Science in weeks 01 - 05, X/Ka Delta DOR in week 01 and 05**

**Mars Odyssey THEMIS and Delta DOR in week 03**

**Messenger Delta DOR ending in week 02 and Mercury FB1 beginning in week 03, TCM in weeks 02 and 04**

**Phoenix Cruise and Delta DOR**

**SGP Crust Dyn B-M4 in week 03, Crust Dyn H-M4 weeks 02 and 04, Crust Dyn W-M4 weeks 03 - 04**

**SOHO Keyhole and TSO in week 04**



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – January (Weeks 01 - 05) (Continued)

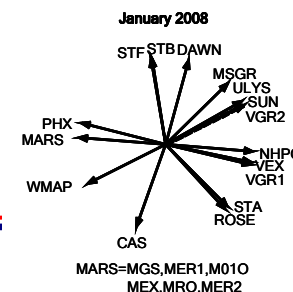
#### EVENTS

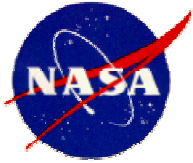
Ulysses Nutation

Voyager 1 MAGROL on DOY 032

WIND TCM on DOY 007

WMAP Maneuver in week 04





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – January (Weeks 01 - 05) (continued)**

---



#### **RECOMMENDATIONS**

VGR2 reduce supports to 6 hours and move 4 of 7 passes from DSS-43,45,34 to DSS-43,45 in weeks 01 - 04.





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

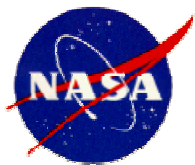
### **2008 – January (Weeks 01 - 05) (continued)**

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#### **ANALYSES**

1. (34BWG1) The projected unsupportable time is moderate to extreme for DSS Maintenance, MSGR Cruise and VGR2 routine support. Contention is due to oversubscription in the Mars and Sun viewperiod.

Contention levels on the 70M, 34H, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – February (Weeks 06 - 09)**

#### **EVENTS**

**DSS-14 proposed downtime (Quarterly Grouting) in week 06**

**DSS-15 approved downtime (Life Extension) beginning in week 08**

**DSS-54 approved downtime (X/X-Ka Band Install) beginning in week 06**

**ATOT A01 Astrometry in week 07**

**Cassini Tour**

**EGS Calibration in week 08, Global VLBI in week 09**

**GSSR Astrometry 4450 Pan in weeks 07 - 08**

**GBRA Host Country in week 09**

**Mars Odyssey Delta DOR in week 07, Map in week 06**

**Mars Express Radio Science and Bi-Static in weeks 06 and 08, Orbital Science**

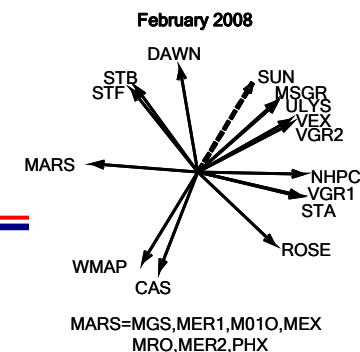
**Mars Reconnaissance Orbiter X-Ka/Delta DOR in week 09, Ka Ops Demo, PSci, THEMIS**

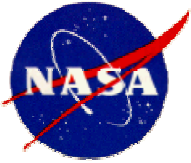
**Messenger Mercury FB1 in weeks 06 - 07**

**SGP Crust Dyn B-M4 in week 06**

**SOHO Keyhole in weeks 06 - 09, Maneuver in week 08**

**Ulysses Nutation**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – February (Weeks 06 - 09) (continued)**

---

#### **RECOMMENDATIONS**

**DSS approve proposed DSS-14 3-day grouting in week 06. (1)**

**CHDR move 7 of 21 passes from 34B1 to DSS-27 in week 08. (2)**

**CLU2 1/2/3/4 SSO move all array passes from DSS-27/24/15/14 to DSS-27/24/15 in week 06. (1)**

**INTG move 1 of 3 passes from DSS-24,27 to DSS-27 in week 08. (2)**

**M01O Mapping MSPA with MGS Mapping, change all support to standalone and MSPA 3 passes with MRO Prime Science in weeks 07 - 09. (1)**

**MRO Prime Science MSPA 3 of 7 standalone supports at DSS-25,34,55 with M01O Mapping at DSS-25,45,65 in weeks 07 - 09. (1,2)**

**VGR2 reduce supports to 6 hours and move 4 of 7 passes from DSS-43,45,34 to DSS-43,45. (2)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

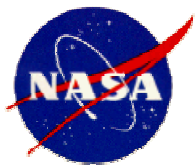
### **2008 – February (Weeks 06 - 09) (continued)**

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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, CLU4 1/2/3/4 MSO, GSSR, STF, ULYS Nutation and WMAP. Contention is due to Ulysses Nutation and significant view period overlap with Mars view.
2. (34BWG1) The projected unsupportable time is moderate to severe for DSS Maintenance and SOHO Keyhole. Contention is due to Ulysses Nutation and significant view period overlap with Mars view.

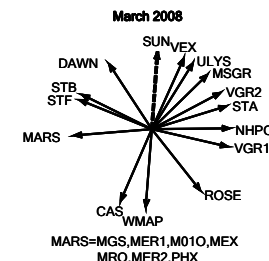
Contention levels on the 34H, 34B2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – March (Weeks 10 - 13)**



#### **EVENTS**

**DSS-54 approved downtime (X/X-Ka Band Install)**

**DSS-15 approved downtime (Life Extension)**

**Cassini Tour**

**Chandra ACA Dark Current Measurement in week 10**

**EGS EVN J-M5 in week 10**

**GBRA Host Country in weeks 12 - 13**

**GSSR Mercury in week 12**

**Hayabusa MUSES-C Orbit Determination in week 11**

**Mars Odyssey Delta DOR in week 11, and THEMIS**

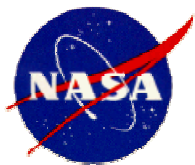
**Mars Express Orbital Science, Radio Science Bi-Static in weeks 10 and 12**

**Mars Reconnaissance Orbiter X/Ka Delta DOR in week 13, Ka Ops Demo, Prime Science**

**Messenger DSM-3 in week 12**

**Phoenix Delta DOR, Approach begin in week 13**

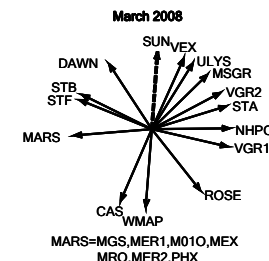
**SGP Crust Dyn B-M4 in week 11, W-M4 in weeks 10 and 13**



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – March (Weeks 10 - 13) (Continued)



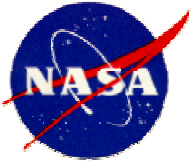
#### EVENTS

SOHO HSO beginning in week 10

Voyager 1 MAGROL Overlay Window in week 10

Voyager 2 ASCAL and MAGROL in week 11, XB High Power in week 10, XB Low Power in week 12

Wind TCM in week 12



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2008 – March (Weeks 10 - 13) (continued)**

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### **RECOMMENDATIONS**

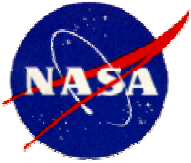
**INTG move 1 of 3 passes from DSS-24,27 to DSS-27. (2)**

**MEX Orbital Science MSPA with MGS Mapping at DSS-24,25 change all support to standalone and MSPA all passes with MRO Prime Science at DSS-24,25. (2,3)**

**MRO Prime Science MSPA all passes with MEX Orbital Science at DSS-24,25. (2,3)**

**SOHO HSO change DSS-27 to DSS-14,24,27. (1,3)**

**WIND move 2 of 7 passes from 34B1 to D/L at DSS-45. (2)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – March (Weeks 10 - 13) (continued)**

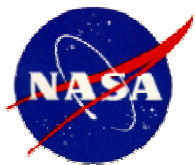
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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for DSS Maintenance, SOHO Keyhole and STF. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view.
2. (34BWG1) The projected unsupportable time is moderate to extreme for DSS Maintenance, MEX/MRO MSPA, SOHO Keyhole ULYS U/L, D/L supports. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view
3. (34HSB) The projected unsupportable time is moderate to extreme for ACE, CHDR, DSS Maintenance and SOHO Keyhole. Contention is due to oversubscription of the DSS-27 antenna in the Sun viewperiod.

Contention levels on the 34HEF, 34BWG2, and 26M subnets are workable and should resolve during final schedule preparations and negotiations





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – April (Weeks 14 - 17)**

#### **EVENTS**

**DSS-54 approved downtime (X/X-Ka Band Install)**

**DSS-15 approved downtime (Life Extension)**

**Cassini Tour**

**GBRA Host Country in week 17**

**Mars Odyssey Delta DOR in week 16 and THEMIS**

**Mars Express Orbital Science ending in week 17, Radio Science Bi-Static in weeks 14 and 16**

**Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka-Delta DOR in week 17**

**Messenger TCM in week 15**

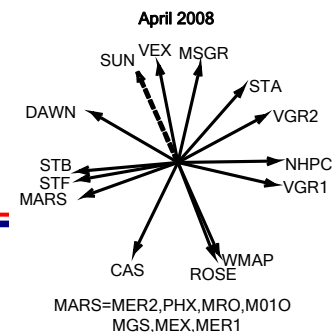
**Phoenix Approach and Delta DOR, TCM in week 15**

**SGP Crust Dyn B-M4 in week 15**

**SOHO HSO**

**Voyager 1 DTR Array in week 17**

**Voyager 2 MAGROL Overlay Window in week 17**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2008 – April (Weeks 14 - 17) (continued)**

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### **RECOMMENDATIONS**

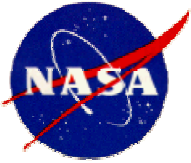
**INTG move 1 of 3 passes from DSS-24,27 to DSS-27. (2,4)**

**MEX Orbital Science MSPA with MGS Mapping change all support to standalone and  
MSPA all passes with MRO Prime Science at DSS-24,25. (2)**

**MRO Prime Science MSPA all passes with MEX Orbital Science at DSS-24,25. (2)**

**SOHO HSO change DSS-27 to DSS-14,24,27. (1,4)**

**WIND move 1 of 7 passes from 34B1 to D/L at DSS-45. (2)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

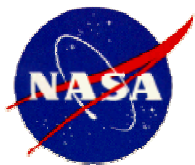
**2008 – April (Weeks 14 - 17) (continued)**

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### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, M01O Mapping, SOHO Keyhole and STF. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view.
2. (34BWG1) The projected unsupportable time is moderate to extreme for DSS Maintenance, MEX/MRO MSPA, SOHO Keyhole ULYS U/L, D/L supports. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view.
3. (34HEF) The projected unsupportable time is moderate for DSS Maintenance and Cassini Tour. Contention is due to oversubscription in the Mars and Sun viewperiod.
4. (34HSB) The projected unsupportable time is moderate to extreme for ACE, CHDR, DSS Maintenance and SOHO Keyhole. Contention is due to oversubscription of the DSS-27 antenna in the Sun viewperiod.

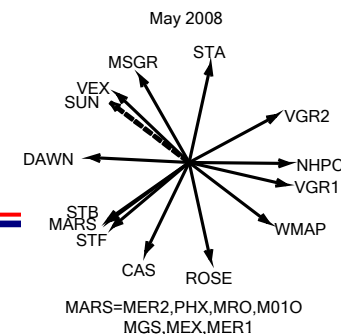
Contention levels on the 34BWG2 and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – May (Weeks 18 - 22)**



#### **EVENTS**

**DSS-54 approved downtime (X/X-Ka Band Install) ending in week 19**

**DSS-15 approved downtime (Life Extension) ending in week 19**

**ATOT A01 Image in week 18**

**Cassini Tour**

**EGS Calibration and EVN J-M5 in week 22**

**GBRA Host Country in weeks 18 and 22**

**GSSR GODR in week 22, Mercury in week 20**

**Mars Odyssey Delta DOR in week 20 and THEMIS ending in week 18**

**Mars Express Orbital Occultation, Radio Science Bi-Static in weeks 18, 20 and 22**

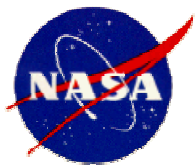
**Mars Reconnaissance Orbiter Ka Ops Demo, X/Ka Delta DOR in week 21**

**New Horizons Maneuver in weeks 21 - 22**

**Phoenix Approach and Delta DOR, EDL in week 22, TCM in weeks 19 - 20**

**SGP Crust Dyn B-M4 in week 20, Crust Dyn W-M4 in week 18 and 21**

**SOHO HSO ending in week 18, Keyhole in weeks 19 - 22, Maneuver in week 22**



# RESOURCE ALLOCATION REVIEW

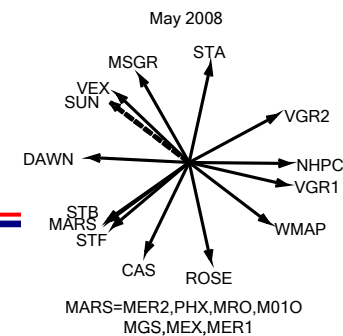
## Events, Recommendations and Analyses

### 2008 – May (Weeks 18 - 22) (Continued)

#### EVENTS

Venus Express Solar Corona beginning in week 19

Voyager 1 ASCAL on DOY 121 and MAGROL on DOY 124 in week 18





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2008 – May (Weeks 18 - 22) (continued)**

---

### **RECOMMENDATIONS**

**INTG change support from DSS-24,27 to DSS-27. (3)**

**M01O Relay MSPA with MGS Mapping move 7 passes at DSS-15,43,65 to standalone and MSPA 7 passes with MEX Orbital Science/Occultation at DSS-15,65 in week 21 and 7 passes with MEX Orbital Science/Occultation at 34H,70M in weeks 19, 20 and 22.**

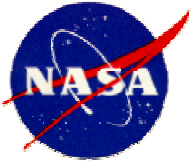
**M01O Relay MSPA with MGS Mapping move 7 passes at DSS-26,45,55 to standalone and MSPA with MRO Prime Science at 70M,34B2 in week 21. (1,2,3,4)**

**MEX Orbital Science / Occultation MSPA 7 passes at DSS-15,65 with M01O Relay in week 21 and MSPA 7 passes at 34H,70M with M01O Relay in weeks 19, 20 and 22. (1,2,3,4)**

**MRO Prime Science MSPA 7 passes at 70M,34B2 with M01O Relay in week 21. (1,2,3,4)**

**SOHO HSO change DSS-27 to DSS-14,24,27 in week 18. (5)**

**STB move 4 of 7 passes from DSS-26,34,54 to 34H. (3,4)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

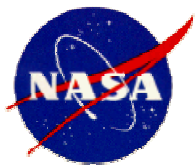
### **2008 – May (Weeks 18 - 22) (continued)**

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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for DSS Maintenance, SOHO Keyhole and STF. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view.
2. (34H) The projected unsupportable time is moderate to severe for Cassini Tour, DSS Maintenance, M01O, MEX, PHX Delta DOR and TCM, SOHO Keyhole and STB Prime Science. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view.
3. (34B1) The projected unsupportable time is moderate to extreme for DSS Maintenance, MEX, MRO, PHX TCM, SOHO HSO and Keyhole. Contention is due to SOHO HSO and Keyhole and significant view period overlap with Mars and Sun view.
4. (34B2) The projected unsupportable time is moderate to severe for DSS Maintenance, MSGR Cruise, PHX Approach and STB Prime Science. Contention is due to PHX Approach and Messenger Cruise support and significant view period overlap with Mars and Sun view.
5. (34HSB) The projected unsupportable time is moderate to extreme for ACE, CHDR, DSS Maintenance and SOHO HSO and Keyhole. Contention is due to oversubscription of the DSS-27 antenna in the Sun viewperiod.

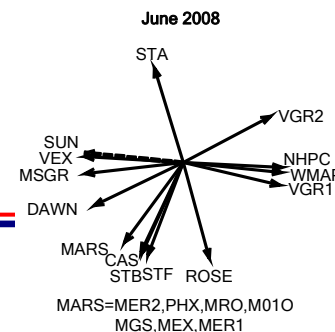
Contention levels on the 26M subnet is workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – June (Weeks 23 - 26)**



#### **EVENTS**

**DSS-14 proposed downtime (Quarterly Grouting) in week 25**

**ATOT Mission in week 25**

**Cassini Tour**

**Chandra Earth Eclipse in weeks 24 - 26**

**EGS Global VLBI in week 23**

**GBRA Host Country in weeks 23 and 26**

**GSSR GODR in weeks 24 and 26, Mercury in week 23**

**Mars Express Orbital Occultation, Radio Science Bi-Static in weeks 24 and 26**

**Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka Delta DOR in week 25**

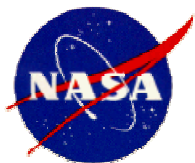
**Hayabusa MUSES-C Orbit Determination in week 24**

**SGP Crust Dyn B-M4 in week 26, SGP Crust Dyn H-M4 in week 23, Crust Dyn W-M4 in week 25**

**SOHO TSO in week 24**

**Venus Express Solar Corona**





# RESOURCE ALLOCATION REVIEW

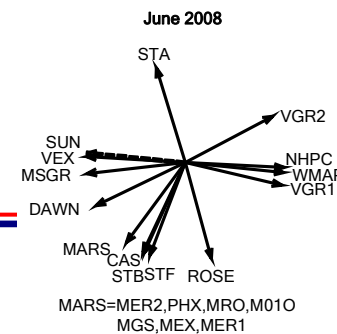
## Events, Recommendations and Analyses

### 2008 – June (Weeks 23 - 26)

#### EVENTS

Voyager 2 MAGROL on DOY 166

WMAP Maneuver in week 23





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

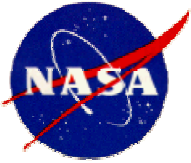
**2008 – June (Weeks 23 - 26) (continued)**

---

### **RECOMMENDATIONS**

DSS approve proposed DSS-14 3-day quarterly grouting in week 25. (DT)

CLU2 SSO move all array supports from DSS-27/24/15/14 to DSS-27,24,15 in week 25. (DT)



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – June (Weeks 23 - 26) (continued)**

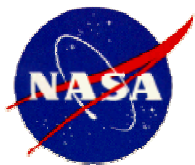
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#### **ANALYSES**

**DT - Denotes recommendations made for downtime approval.**

**Contention levels on the 70M, 34B1, 34B2, 34H 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – July (Weeks 27 - 31)**

#### **EVENTS**

**DSS-34 Proposed downtime (Ka Band Phase 2) beginning in week 27**

**Cassini Tour**

**Chandra ACA D/C MESR in week 27**

**GBRA Host Country in week 29**

**GSSR Astrometry 2003 YE45 in weeks 28 - 29, GODR in weeks 28 and 30, Mercury in weeks 30 - 31**

**Mars Express Orbital Occultation, Radio Science Bi-Static in weeks 28 and 30**

**Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka Delta DOR in week 29**

**Messenger Delta DOR beginning in week 30**

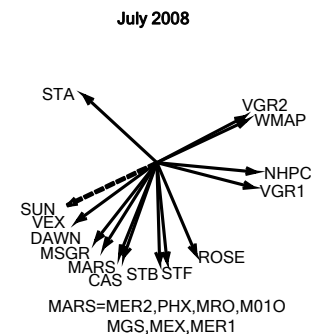
**SGP Crust Dyn B-M4 in week 30, SGP Crust Dyn H-M4 in week 28, Crust Dyn W-M4 in week 31**

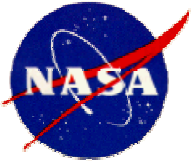
**SOHO Keyhole beginning in week 31, TSO in week 28**

**Venus Express Solar Corona ending in week 28**

**Voyager 1 MAGROL on DOY 215**

**WIND TCM in week 27**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2008 – July (Weeks 27 - 31) (continued)**

---

### **RECOMMENDATIONS**

**DSS approve proposed DSS-34 Ka-Band Phase 2 downtime beginning in week 27. (DT)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – July (Weeks 27 - 31) (continued)**

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#### **ANALYSES**

**DT - Denotes recommendations made for downtime approval.**

**Contention levels on the 70M, 34B1, 34B2, 34H 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – August (Weeks 32 - 35)**

#### **EVENTS**

**DSS-14 proposed downtime (Quarterly Grouting) in week 35**

**DSS-34 Proposed downtime (Ka Band Phase 2)**

**ATOT A01 Image in week 34**

**Cassini Tour**

**GBRA Host Country in weeks 32 and 33**

**GSSR Astrometry 1991 VH in weeks 33 - 34, GODR in weeks 32 and 34**

**Mars Express Orbital Occultation, Radio Science Bi-Static in weeks 32 and 34**

**Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka Delta DOR in week 33**

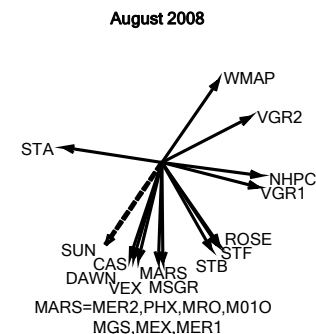
**Messenger Delta DOR ending in week 32**

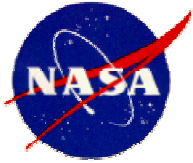
**Hayabusa MUSES-C Orbital Determination in week 33**

**Rosetta Asteroid Flyby beginning in week 32**

**SGP Crust Dyn B-M4 in week 33, SGP Crust Dyn H-M4 in week 35, Crust Dyn W-M4 in week 34**

**SOHO Keyhole and Keyhole Maneuver in week 33**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – August (Weeks 32 - 35) (continued)**

---

#### **RECOMMENDATIONS**

**DSS approve proposed DSS-14 3-day quarterly grouting in week 35. (1)**

**DSS approve proposed DSS-34 Ka-Band Phase 2 downtime.**

**CLU2 1/2/3/4 SSO change all supports from DSS-46/34/45/43 to DSS-46/43/45 and CLU4  
1/2/3/4 MSO change all supports from DSS-46/34/45/43 to DSS-46/43/45. (1)**

**GBRA Host Country delete in week 33 at DSS-34. (1)**

**GSSR Asteroid 1991 VH move to weeks 31 and 32 DOY 214 – 219. (1)**

**M01O Relay MSPA with MGS Mapping move all supports at DSS-26,45,54 to standalone  
and M01O Relay MSPA 7 passes per week at 70M and at DSS-43,63 with MEX Orbital  
Science/Occultation at 70M. (1,2)**

**MEX Orbital Science/Occultation and MGS Mapping change supports at 34H, 70m to  
standalone and MSPA with M01O Relay at 70M. (1,2)**

**MRO Prime Science move from 70M to 34H in weeks 33 and 34. (1,2)**

**SOHO Keyhole delete 3 passes in week 33 and 2 passes in week 34 at 70M. (1)**

**STB move support at DSS-26,34,54 to 34H. (2)**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

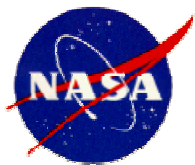
### **2008 – August (Weeks 32 - 35) (continued)**

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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for Cassini Tour, DSS Maintenance, GSSR Astrometry 1991 VH, Hayabusa Orbit Determination, MEX Orbital Science/Occultation, MRO Prime Science, MSGR Cruise, SOHO Keyhole and STF. Contention is due to SOHO Keyhole and significant view period overlap with Mars and Sun view periods compounded by DSS-34 downtime.
2. (34BWG2) The projected unsupportable time is moderate to severe for Cassini Tour, DSS Maintenance, MRO Prime Science, Ka Ops, X-Ka Delta DOR. Contention is due to a significant view period overlap with Mars and Sun view period.

Contention levels on the 34HEF, 34BWG1, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations

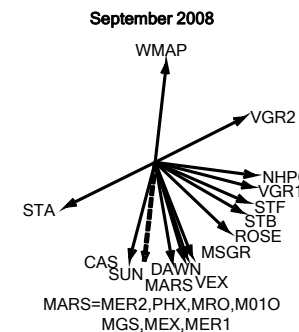


## **EVENTS**

# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – September (Weeks 36 - 39)**



**DSS-34 Proposed downtime (Ka Band Phase 2) ending in week 39**

**ATOT A01 Image in week 37**

**Cassini Tour**

**GBRA Host Country in week 36 - 37 and 39**

**GSSR Astrometry 1998 UO1 in weeks 38 - 39, Astrometry 2000 DP10 in week 37**

**Mars Odyssey Relay**

**Mars Express Orbital Occultation in week 36, Radio Science Bi-Static in weeks 36 and 38**

**Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka Delta DOR in week 37**

**Messenger Delta DOR in weeks 36 - 37, TCM in week 36**

**New Horizons Beacon ending in week 38, Checkout in week 39, Cruise Telemetry in week 36**

**Rosetta Asteroid Flyby ending in week 38**

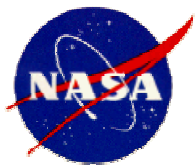
**SGP Crust Dyn B-M4 in week 36, SGP Crust Dyn H-M4 in week 39, Crust Dyn W-M4 in week 38**

**SOHO TSO in week 39**

02/13/2007

Preliminary

SC – 1.0 – 81



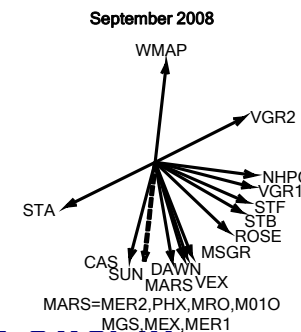
# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – September (Weeks 36 - 39) (Continued)

#### EVENTS

Voyager 2 ASCAL in week 37 and MAGROL on DOY 257, Voyager 2 XB High  
week 36, Low Power in week 38





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



**2008 – September (Weeks 36 - 39) (continued)**

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### **RECOMMENDATIONS**

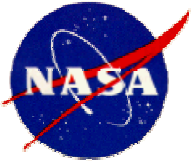
**DSS approve proposed DSS-34 Ka-Band Phase 2 downtime ending in week 39**

**CLU2 1/2/3/4 SSO change all supports from DSS-46/34/45/43 to DSS-46/43/45 and CLU4 1/2/3/4 MSO change all supports from DSS-46/34/45/43 to DSS-46/43/45. (1)**

**M01O Relay MSPA with MGS Mapping change all supports at DSS-26,45,54 to standalone and M01O Relay MSPA 7 passes per week at 70M and at DSS-43,63 with MRO Prime Science at 70M. (1,2)**

**MRO Prime Science MSPA 7 passes with M01O Relay at 70M. (1,2)**

**MSGR Cruise move 6 and 8 hour passes from DSS-26,45,65 to 34H. (2)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



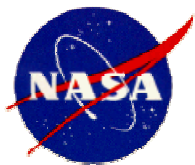
**2008 – September (Weeks 36 - 39) (continued)**

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### **ANALYSES**

- 1. (70M) The projected unsupportable time is moderate to severe for DSS Maintenance MEX Orbital Science/Occultation, MRO Prime Science, MSGR Cruise and TCM and STF. Contention is due to oversubscription and significant view period overlap with Mars view compounded by the DSS-34 downtime.**
- 2. (34BWG2) The projected unsupportable time is moderate to severe for CAS Tour, DSS Maintenance, M01O Relay MSGR Cruise, MRO Prime Science, STB Prime Science and VGR1 D/L. Contention is due to oversubscription and significant view period overlap with Mars view compounded by the DSS-34 downtime.**

**Contention levels on the 34H, 34BWG1, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations**



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – October (Weeks 40 - 44)

#### EVENTS

DSS-43 Approved downtime (Life Extension) beginning in week 40

DSS-46 Proposed downtime (Extended Downtime) beginning in week 40

DSS-66 Proposed downtime (Extended Downtime) beginning in week 40

Cassini Tour

GBRA Host Country in weeks 40 and 44

Kepler Commission, Initial Acquisition, and Launch in week 44.

Mars Odyssey Relay

Mars Express Orbital Science, Radio Science Bi-Static in weeks 40,42,44

Mars Reconnaissance Orbiter Ka Ops Demo, Prime Science, X/Ka Delta DOR in week 41

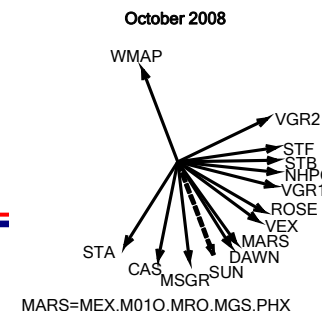
Messenger Delta DOR in weeks 41, Mercury FB2 in weeks 41 - 42, TCM in weeks 40 and 42

New Horizons Delta DOR in weeks 40 - 41, Checkout, Maneuver in week 41

SGP Crust Dyn B-M4 in week 42, SGP Crust Dyn H-M4 in week 44, Crust Dyn W-M4 in week 43

SOHO TSO in week 42

Voyager 1 Routine U/L in weeks 40 - 42, ASCAL in week 44, DTR Array in week 43, MAGROL in week 44 on DOY 305 - 306





# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

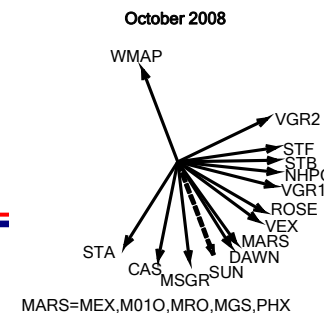
### 2008 – October (Weeks 40 - 44) (Continued)

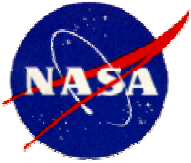
#### EVENTS

Voyager 2 MAGROL Overlay Window beginning in week 43

WIND TCM in week 40

WMAP Maneuver in week 41





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – October (Weeks 40 - 44) (continued)**

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#### **RECOMMENDATIONS**

**DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions. (4)**

**ACE move 3 passes at DSS-34 to 34B1 and move 2 or 7 passes from DSS-27 to DSS-27,65 and move 2 of 7 passes from DSS-27 to DSS-45. (2,3)**

**CHDR move 3 of 7 passes from DSS-27,45,65 to DSS-27. (2)**

**M01O Relay MSPA with MGS Mapping move all supports to standalone at DSS-26,45,54 and MSPA 7 passes with MRO Prime Science at DSS-25,34,65 in weeks 40, 42, 43 and 44 and 4 of 7 passes in week 41 and M01O Relay at 34B1,25,26,45,65 and MSPA 7 passes with MEX Orbital Science/Occultation at DSS-25,26,45,65. (2,3)**

**MEX Orbital Science/Occultation MSPA 7 passes with M01O Relay at DSS-25,26,45,65. (2,3)**

**MRO Prime Science at DSS-25,34,65 MSPA with M01O Relay at DSS-26,45,54. (2,3)**

**VGR1 D/L delete 3 of 7 passes at DSS-26,25 and delete 3 of 7 passes at DSS-55**

**WIND move 1 of 7 passes from 34B1 to D/L at DSS-45 (2,3)**





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

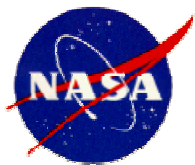
### **2008 – October (Weeks 40 - 44) (continued)**

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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for DSS Maintenance M01O Relay, MRO Prime Science, MSGR TCM, NHPC Checkout, STF and VGR1 ASCAL, DTR Array and MAGROL. Contention is due to significant view period overlap with Mars and Sun view period.
2. (34HEF) The projected unsupportable time is moderate to severe for DSS Maintenance, Kepler Launch, M01O Relay, MEX Orbital Science/Occultation, MSGR Cruise and SOHO TSO. Contention is due to Kepler Launch and significant view period overlap with Mars and Sun view period.
3. (34BWG1) The projected unsupportable time is moderate to severe for DSS Maintenance, GBRA Host Country, M01O Relay, MRO Ka Ops Demo, X-Ka Delta DOR and Prime Science. Contention is due to Kepler Launch and significant view period overlap with Mars and Sun view period.
4. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

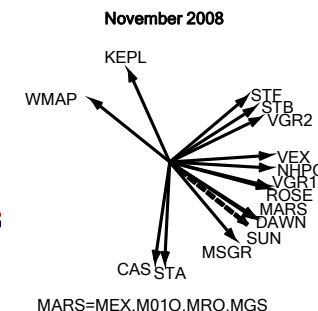
Contention levels on the 34BWG2 and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – November (Weeks 45 - 48)



#### EVENTS

DSS-43 Approved downtime (Life Extension)  
DSS-46 Proposed downtime (Extended Downtime)  
DSS-66 Proposed downtime (Extended Downtime)

Cassini Tour

Chandra ACA D/C MESR in week 45, Leonid Pass in week 48

GBRA Host Country in week 48

EGS EVN J-M5 and Calibration in week 48, Global VLBI in week 45

GSSR Astrometry 4179 Tout in weeks 46 - 47

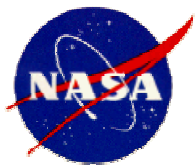
Kepler Commission

Mars Odyssey Relay

Mars Global Surveyor Map

Mars Express Orbital Science, Radio Science Bi-Static in weeks 46 and 48

Mars Reconnaissance Orbiter Ka Ops Demo in weeks 45 - 46, Prime Science in weeks 45 - 47, X/Ka Delta DOR in week 45, Solar Conjunction beginning in week 47



# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – November (Weeks 45 - 48) (Continued)

#### EVENTS

New Horizons Beacon beginning in week 46, Checkout ending in week 46,  
Cruise/Telemetry in week 46

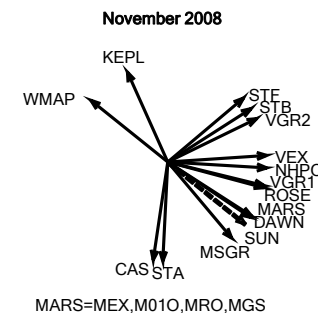
SGP Crust Dyn B-M4 in week 47, SGP Crust Dyn H-M4 in week 48, Crust Dyn W-M4 in  
week 46

SOHO Keyhole in weeks 45 - 47, Keyhole MNVR in week 46

Voyager 1 Routine U/L

Voyager 2 MAGROL Overlay Window ending in 45

WIND TCM in week 45





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



**2008 – November (Weeks 45 - 48) (continued)**

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### **RECOMMENDATIONS**

**DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions (5)**

**ACE move 3 passes at DSS-34 to 34B1 and move 2 or 7 passes from DSS-27 to DSS-27,65 and move 2 of 7 passes from DSS-27 to DSS-45. (2,3)**

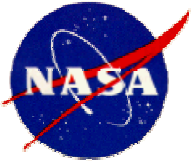
**CHDR move 4 of 7 passes from DSS-27,45,65 to DSS-27. (2)**

**M01O Relay MSPA with MGS Mapping move all supports to standalone at DSS-26,45,55 and MSPA 7 passes with MRO Prime Science at DSS-25,34,65 in weeks 45 and 46 (3,4)**

**MRO Prime Science MSPA with M01O Relay at DSS-25,34,65 in weeks 45 and 46. (2,3,4)**

**VGR1 D/L delete 3 of 7 passes at DSS-26,25 and delete 3 of 7 passes at DSS-55. (4)**

**WIND move 1 of 7 passes from 34B1 to D/L at DSS-45. (2,3)**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

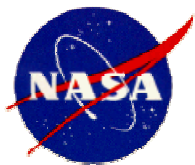
**2008 – November (Weeks 45 - 48) (continued)**

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### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for DSS Maintenance, Cassini Tour, GSSR Asteroid 4179 Tout, M01O Relay, MRO Prime Science, NHPG Checkout and Cruise/Telemetry, SOHO Keyhole and STF. Contention is due to significant view period overlap with Mars and Sun view periods.
2. (34HEF) The projected unsupportable time is moderate to severe for DSS Maintenance, M01O Relay, MRO Prime Science, MSGR Cruise and SOHO Keyhole. Contention is due to significant view period overlap with Mars and Sun view periods.
3. (34BWG1) The projected unsupportable time is moderate to severe for DIF Approach and TCM, DSS Maintenance, GBRA Host Country, M01O Relay, MRO Ka Ops Demo, Prime Science, SOHO Keyhole and Keyhole Maneuver, STF and WMAP. Contention is due to significant view period overlap with Mars and Sun view periods.
4. (34BWG2) The projected unsupportable time is moderate to severe for DIF TCM, DSS Maintenance, M01O Relay and VGR1 D/L.
5. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

Contention levels on the 34HSB subnet is workable and should resolve during final schedule preparations and negotiations



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2008 – December (Weeks 49 - 52)**

#### **EVENTS**

**DSS-43 Approved downtime (Life Extension)**  
**DSS-46 Proposed downtime (Extended Downtime)**  
**DSS-66 Proposed downtime (Extended Downtime)**

**Cassini Tour**

**Chandra Earth Eclipse beginning in week 50**

**GBRA Host Country in week 51**

**Kepler Science Ops**

**Mars Odyssey Relay, Relay Complementary in week 52**

**Mars Global Surveyor Map**

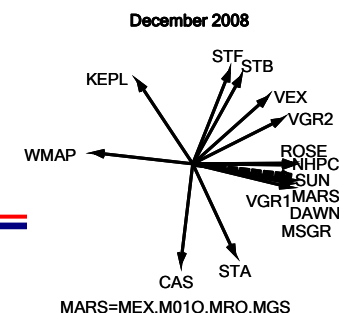
**Mars Express Orbital Science, Radio Science Bi-Static in weeks 50 and 52**

**Mars Reconnaissance Orbiter Solar Conjunction ending in week 51, X/Ka-Delta DOR in week 52**

**Messenger DSM-4 in week 49, TCM in week 51**

**Hayabusa MUSES-C Orbital Determination in week 51**

**New Horizons Maneuver in weeks 50 - 51**





# RESOURCE ALLOCATION REVIEW

## Events, Recommendations and Analyses

### 2008 – December (Weeks 49 - 52) (Continued)

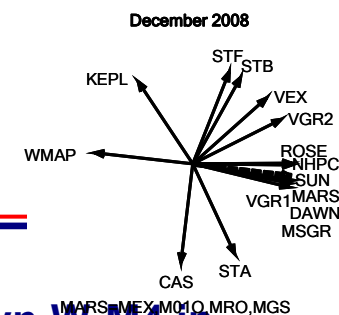
#### EVENTS

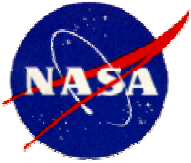
SGP Crust Dyn B-M4 in week 51, SGP Crust Dyn H-M4 in week 50, Crust Dyn W-M4 in week 51

SOHO TSO in week 50

Voyager 1 Routine U/L

Voyager 2 MAGROL on DOY 348





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



**2008 – December (Weeks 49 - 52) (continued)**

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### **RECOMMENDATIONS**

DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions. Delete 1 Maintenance period each at DSS-14 and DSS-63 in week 49. (1,4)

CAS tour move support from DSS-15,45,55 to DSS-15,25,55,65. (2)

GBRA Host Country delete one 8 hour support at DSS-34 in week 50. (3)

M01O Relay MSPA with MGS Mapping, change 7 passes per week at DSS-26,45,54 to standalone at DSS-34H,34B2. M01O Relay, delete 2 passes and MSPA remaining five 8-hour passes with MEX Orbital Science at DSS-14,63. (1,2)

MEX Orbital Science MSPA with MGS Mapping, change seven 10-hour passes per week at DSS-15,25,54,63 to standalone. MEX Orbital Science, delete 2 passes and MSPA remaining five 8-hour passes with M01O Relay at DSS-14,63. (1,2)

SOHO delete two 8 or 9.6 hour passes at DSS-27,45,65. (2,4)

VGR2 delete 3 of 7 passes at DSS-34,45 in week 49 – 51. (2,3)





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

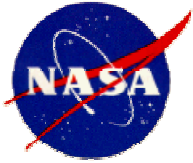
**2008 – December (Weeks 49 - 52) (continued)**

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### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to severe for DIF Encounter, DSS Maintenance M01O Relay, MEX Orbital Science/Occultation, MSGR DSM-4 and TCM, MUSES-C Orbit Determination and NHPC Cruise/Telemetry, Maneuver and Solar Conjunction, Maneuver and Solar Conjunction. Contention is due to over subscription of the subnet and significant view period overlap with Mars and Sun view period, compounded by the DSS-43, DSS-46 and DSS-66 downtimes.
2. (34HEF) The projected unsupportable time is moderate to severe for DSS Maintenance, MSGR, SOHO VGR2 and WIND D/L. Contention is due to oversubscription of DSS-45 and offloading from DSS-46 and DSS-43 and significant view period overlap with Mars and Sun view periods.
3. (34BWG1) The projected unsupportable time is moderate to severe for ACE, DSS Maintenance, GBRA Host Country, M01O Relay, MRO Ka Ops Demo, Relay and X/Ka Delta DOR, MSGR Cruise, and VGR2. Contention is due to oversubscription of DSS-34 and offloading from DSS-46 and DSS-43 and significant view period overlap with Mars and Sun view periods.
4. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

**Contention levels on the 34BWG2 and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations**

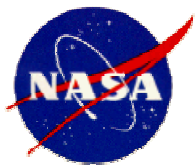


# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



# **2009 Events, Recommendations and Analyses**

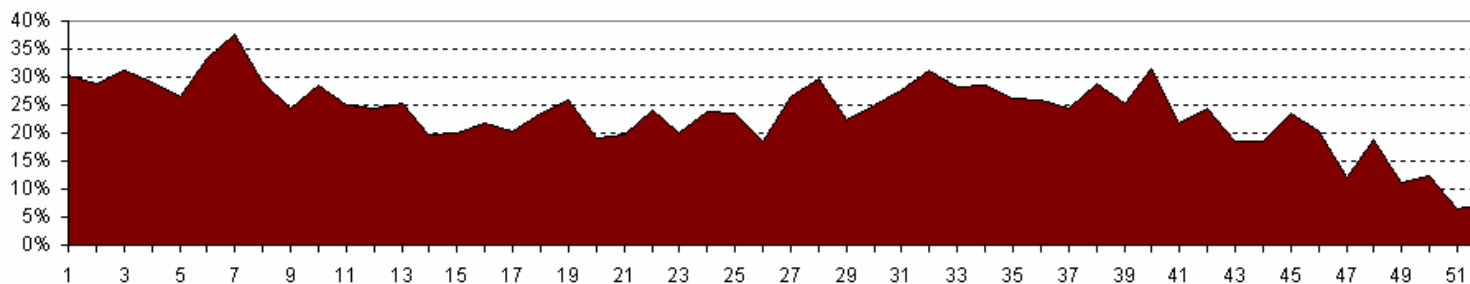


# RESOURCE ALLOCATION REVIEW

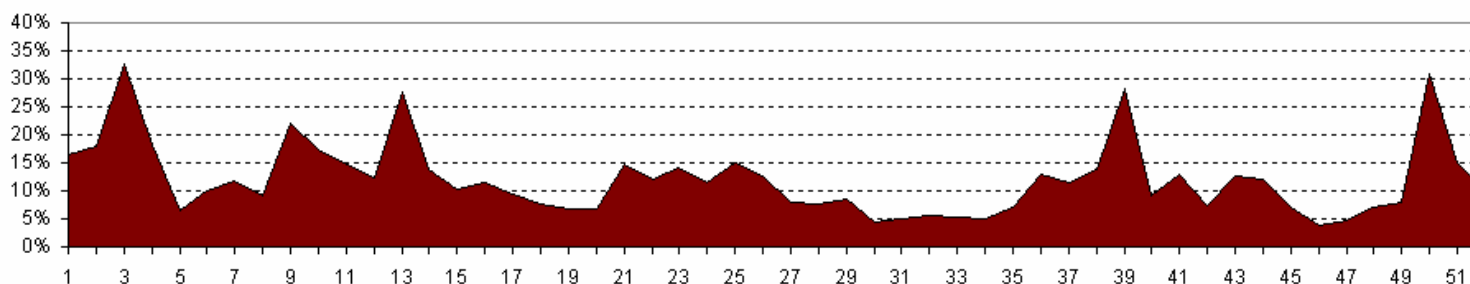
## Events, Recommendations and Analyses

### 2009 Weekly Average User Unsupportable Time

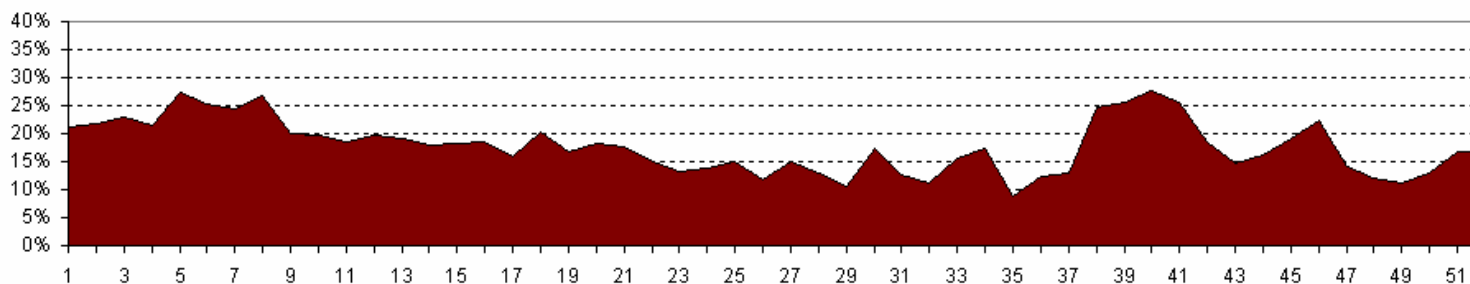
70M

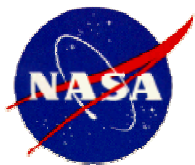


34HEF



34BWG1



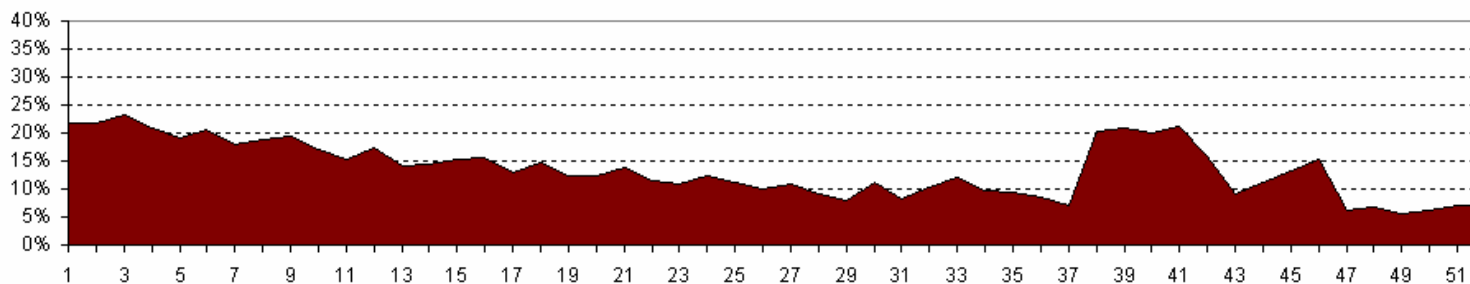


# RESOURCE ALLOCATION REVIEW

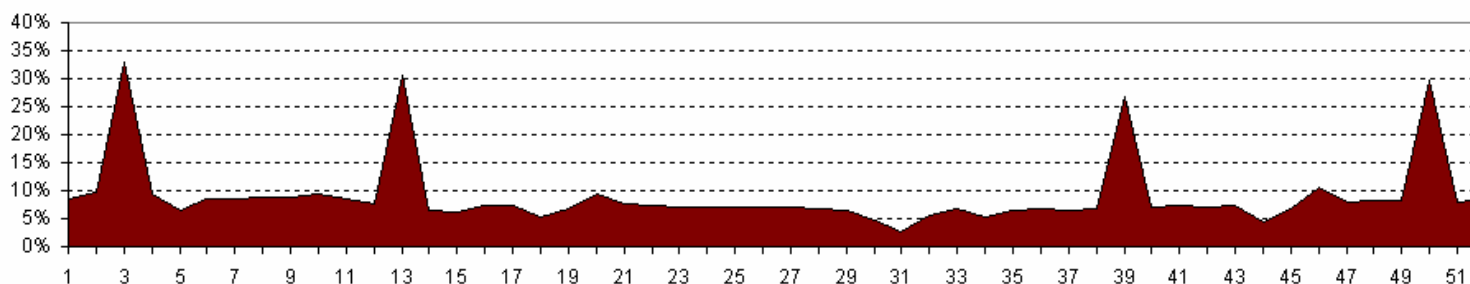
## Events, Recommendations and Analyses

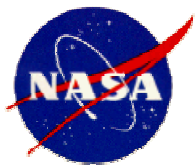
### 2009 Weekly Average User Unsupportable Time

34BWG2



34HSB

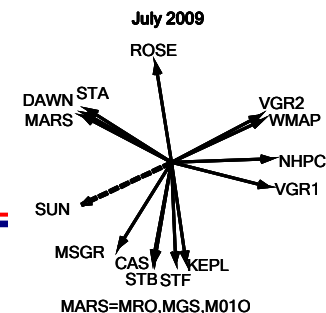




# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2009 – July (Weeks 27 - 31)**



### **EVENTS**

**DSS-24 proposed downtime (Ka-Band Phase 2) beginning in week 27**

**DSS-63 approved downtime (Life Extension)**

**ATOT A01 Image in week 28**

**Cassini Tour**

**Chandra ACA D/C Measurement**

**GSSR Mercury in weeks 27 - 28**

**Kepler Monthly Science in week 30**

**Mars Odyssey THEMIS**

**Mars Express Radio Science Bi-Static in weeks 28 and 30**

**Mars Reconnaissance Orbiter Relay and Relay Complementary**

**Messenger Delta DOR in weeks 29 - 30**

**SGP Crust Dyn B-M4 in week 30, SGP Crust Dyn H-M4 in week 28**

**SOHO HSO in weeks 27 - 29, Keyhole beginning in week 30**

**WIND TCM in week 27**



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2009 – July (Weeks 27 - 31) (continued)**

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### **RECOMMENDATIONS**

DSS approve proposed DSS-24 downtime for Ka-Band Phase 2 installation beginning in week 27. DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions. (2,3)

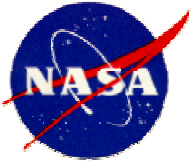
ACE move support from DSS-27,34B1 to DSS-27,45,65 and support at DSS-34 to DSS-45. (2)

CHDR move 7 of 21 passes at DSS-27,34B1 to DSS-27,45,65. (2)

M01O THEMIS MSPA with MEX Orbital Science 2 DSS-14 12-hour passes per week, 2 DSS-43 8 hour passes per week, and 5 passes at 34H,34B2. (1)

MEX Orbital Science with MGS Mapping change support at 34H,34B2 to standalone and MSPA 5 of 7 passes with M01O THEMIS and MSPA 2 remaining passes with MRO Relay Comp. (1,2)

MRO Relay Comp MSPA 2 passes with MEX Orbital Science at 34H,34B2. (2)



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2009 – July (Weeks 27 - 31) (continued)**

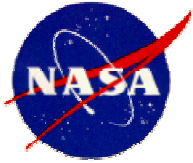
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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for CAS Tour, DSS Maintenance, GSSR Mercury, M01O THEMIS, MEX Bi-Static Radar and SOHO Keyhole. Contention is due to M01O THEMIS requirements and significant view period overlap with Mars view, and is further compounded by proposed DSS-24 and DSS-63 downtime.
2. (34B1) The projected unsupportable time is moderate to severe for ACE, CHDR, DSS Maintenance, DSS Maintenance, SOHO, STF and WIND. Contention is Oversubscription of the subnet compounded with the DSS-24 and DSS-63 downtime.
3. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

Contention levels on the 34HEF, 34BWG2 and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2009 – August (Weeks 32 - 35)**

#### **EVENTS**

**DSS-24 proposed downtime (Ka-Band Phase 2)**

**DSS-63 approved downtime (Life Extension)**

**Cassini Tour**

**Kepler Monthly Science in week 34**

**Mars Odyssey THEMIS**

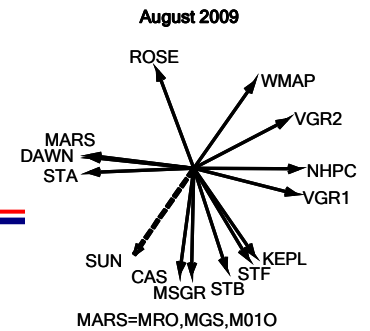
**Mars Express Radio Science Bi-Static in weeks 32 and 34, X/Ka Delta DOR in week 32**

**Mars Reconnaissance Orbiter Relay and Relay Complementary**

**Messenger Delta DOR in weeks 31 and 35, TCM in week 35**

**SOHO Keyhole ending in week 34, Keyhole Maneuver in week 32**

**Voyager 1 MAGROL on DOY 219**







# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

**2009 – August (Weeks 32 - 35) (continued)**

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### **RECOMMENDATIONS**

DSS approve proposed DSS-24 downtime for Ka-Band Phase 2 installation. DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions. (2,3)

ACE move support from DSS-27,34B1 to DSS-27,45,65 and support at DSS-34 to DSS-45. (2)

CHDR move 7 of 21 passes at DSS-27,34B1 to DSS-27,45,65. (2)

M01O THEMIS MSPA with MEX Orbital Science 2 DSS-14 12-hour passes per week, 2 DSS-43 8 hour passes per week, and 5 passes at 34H,34B2. (1)

MEX Orbital Science with MGS Mapping change support at 34H,34B2 to standalone and MSPA 5 of 7 passes with M01O THEMIS and MSPA 2 remaining passes with MRO Relay Comp. (1,2)

MRO Relay Comp MSPA 2 passes with MEX Orbital Science at 34H,34B2. (2)

STB change seven 5-hour passes from DSS-26,34,54 to 34H. (2)



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

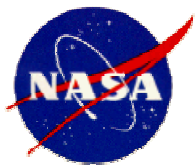
### **2009 – August (Weeks 32 - 35) (continued)**

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#### **ANALYSES**

1. (70M) The projected unsupportable time is moderate to extreme for CAS Tour, DSS Maintenance, GSSR Mercury, M01O THEMIS, MEX Bi-Static Radar and SOHO Keyhole. Contention is due to M01O THEMIS requirements and significant view period overlap with Mars view, and is further compounded by proposed DSS-24 and DSS-63 downtime.
2. (34B1) The projected unsupportable time is moderate to severe for ACE, CHDR, DSS Maintenance, DSS Maintenance, SOHO, STF and WIND. Contention is Oversubscription of the subnet compounded with the DSS-24 and DSS-63 downtime.
3. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

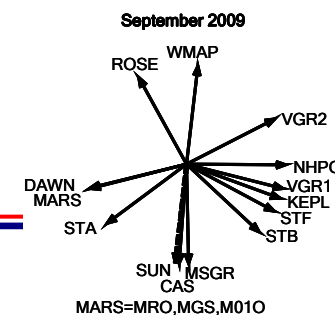
Contention levels on the 34HEF, 34BWG2 and 34HSB subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**

### **2009 – September (Weeks 36 - 39)**



#### **EVENTS**

**DSS-24 proposed downtime (Ka-Band Phase 2) ending in week 39**

**DSS-63 approved downtime (Life Extension) ending in week 39**

#### **Cassini Tour**

**GSSR Astrometry 2000 CO10 and GODR in week 38, Mercury in week 36 and 39**

**Kepler Quarterly Roll/Science in week 38**

**Mars Odyssey THEMIS**

**Mars Express Radio Science Bi-Static in weeks 36 and 38**

**Mars Reconnaissance Orbiter Relay and Relay Complementary**

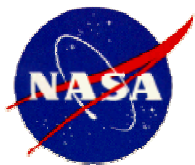
**Messenger Delta DOR in week 36, TCM in week 39**

**Mars Science Laboratory Launch in week 38 (DOY 258), LEOP support in weeks 38 - 39**

**SGP Crust Dyn B-M4 in week 36 and 39, SGP Crust Dyn W-M4 in week 38**

**SOHO TSO in week 39**

**Voyager 1 MAGROL Overlay Window in weeks 37 – 39**



# RESOURCE ALLOCATION REVIEW

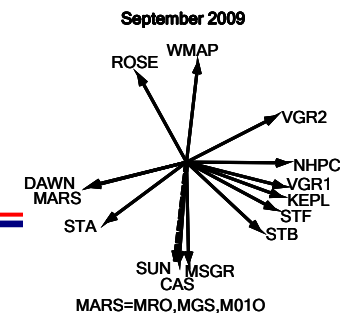
## Events, Recommendations and Analyses

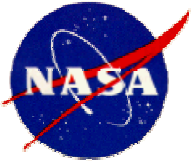
### 2009 – September (Weeks 36 - 39) (Continued)

#### EVENTS

Voyager 2 ASCAL in week 37, MAGROL in week 38 on DOY 257,  
XB High Power in week 37, Low Power in week 39

WMAP Maneuver in week 31





# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



**2009 – September (Weeks 36 - 39) (continued)**

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### **RECOMMENDATIONS**

DSS approve proposed DSS-24 downtime for Ka-Band Phase 2 installation. DSS delay decommissioning DSS-46 and DSS-66 antennas through EOEM's of SSMO missions. (2,3)

ACE move support from DSS-27,34B1 to DSS-27,45,65 and support at DSS-34 to DSS-45. (2)

CHDR move 7 of 21 passes at DSS-27,34B1 to DSS-27,45,65. (2)

M01O THEMIS delete 2 of 7 passes at DSS-14 and 2 passes at DSS-43, MSPA remaining 5 passes at DSS-14 and 5 passes at DSS-43 with MRO Relay and MRO Relay Comp. Add seven 6-hour standalone passes per week at 34H. (1,2)

MEX Orbital Science MSPA with MGS Mapping at 34H change 7 of 7 supports to standalone and MSPA with MRO Prime Science at 34H,34B2.

MRO Relay delete 2 of 5 passes per week at DSS-25,26,34,55 and MSPA remaining 5 passes with M01O THEMIS at DSS-14. MRO Relay Comp delete 2 of 5 passes per week at DSS-25,26,34,54,55 and MSPA remaining 5 passes with M01O THEMIS at DSS-43. MRO Prime Science MSPA 7 passes per week from DSS-25,26,34,55 with MEX Orbital Science at 34H,34B1. (1,2)

MSL Launch Support move from DSS-26,34,54 to 34B1,34B2 in weeks 38 and 39. (2)



# **RESOURCE ALLOCATION REVIEW**

## **Events, Recommendations and Analyses**



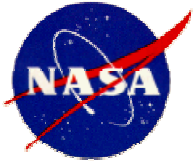
**2009 – September (Weeks 36 - 39) (continued)**

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### **ANALYSES**

1. (70M) Moderate to severe unsupportable time is projected for DSS Maintenance , M01O THEMIS, MEX Bi-Static Radar, STF and VGR2 ASCAL and MAGROL. Contention is due to oversubscription in the daylight and Mars view period and is further compounded by the DSS-63 downtime.
2. (34B1) Moderate to severe unsupportable time is projected for ACE, CHDR, CLU2, DSS Maintenance, GBRA Host Country, KEPL Quarterly Roll and Science Ops, MRO Relay, MSL Launch Support, STA Prime Science, VGR2 XB High Power and Low Power, and WIND. Contention is due to oversubscription in the daylight and Mars view period and is further compounded by the DSS-63 downtime.
3. (26M) The decommission of DSS-46 and DSS-66 significantly increases unsupportable time at the other subnets.

Contention levels on the 34HEF, 34BWG2, 34HSB and 26M subnets are workable and should resolve during final schedule preparations and negotiations.



# **RESOURCE ALLOCATION REVIEW Supplemental Materials**



**Supplemental materials may be found on the  
Resource Allocation Planning Service (RAPS) Homepage at:  
<http://rapweb.jpl.nasa.gov>**

- ◆ **Ongoing Users Negotiated Requirements  
Individual User Loading Profiles**
- ◆ **Resource Allocation Review Information  
Supplemental Yearly Information**